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ORIGINAL ARTICLES.

SPONGE-GRAFTING.

Read before Section on Dental and Oral Surgery, at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

BY WM. H. ATKINSON, M.D.,

OF NEW YORK.

To intelligently understand the advantage of sponge-grafting in efforts to secure reproduction of tissues, the societary arrangements among prime elements which lay the foundation of possibilities in functioning bodies must be taken into account. Adequate study of these elements will reveal whatever pertains to them in personality and behavior. Their origin cannot be seen, and their existence is provable to sensuous cognition only by observation of their aggregative and relational changes. Therefore, to say they had beginning is to assume an unprovable proposition. The careers through which they go in molecular, corpuscular, tissual, organic and systemic currents constitute the functions of perceptible body.

The first perceptible current is gaseous diffusion, which occurs in mass of diverse gases devoid of active affinity between them, each acting upon its own law of diffusion in occupancy of the chamber limiting the gas; so that each molecule stands equidistant from its fellows, which is known as "Avogadro's law." All diffusion of this sort is a mass motion rather than a molecular activity.

The molecular action consists strictly in the formation of molecules and their disruption and reformation in simple and complicated examples of molecules, aggregations of which constitute proximate principles.

The primal examples of molecular genesis is exhibited in the formation of water, H_2O; in which the diffusion of the two gases is limited to exact chemical equivalency of univalence and bivalence of the gases, interpenetrating each other with such intensity of thrust-grasp as to produce liquid molecules of the new body, occupying only a fraction of the space the gases filled, leaving in the chamber (now empty of water molecules) only such H or O as found no mates in chemical equivalency. When the oxygen is in such excess of the hydrogen as to afford the exact quantity, we have H_2O_2, or peroxide of hydrogen formed, as a distinct new variety of molecular body of less intensity of combining grip than that forming water. This affords ready means of oxidation and hydration when hungry bodies are within the sphere of awakening currents of kindred energy.

The results of these associative currents give us the bodies naturalists have classified as members of the three kingdoms, as the statical testimony to the typical form of the currents in chemical, physiological and mental movements in consciousness; the measures of which are displayed in protista, protophyta, protozoa, and their classified degrees in molusca, invertebrate and vertebrate forms of planetary inhabitants.

Interpenetration or diffusion of gas, then, is the first form of feeding within the domain of bodies inhabiting planets, which planets are but masses of stored radiance with some unsatisfied bonds of desire for societary communion, the demand for which is known as hunger. The comprehension of desire for more than the individual is conscious of having in possession involves a deep and intricate examination to so formulate it as to command the attention and kindly consideration of those who regard themselves as learned scientists. Atomic, interatomic; molecular, inter-molecular; gaseous, intergaseous; aqueous, inter-aqueous; celloidal, intercelloidal; and solidal and inter-solidal impact and diffusion of the impacted energy are the examples of caught and stored radiance upon which all functionable bodies depend.

Personality of being (entos) must be accepted and comprehended if we expect to master career of function and factor of function. The word person itself bears testimony to its origin as the initiative movement *in esse* producing existences (existere). *Per*, through, and *sonare*, to sound, are the mother and father of the word person. Tone, then, is the measure of the stretch of intention limiting modes of consciousness in individual and associate presence in primal, proximate and ultimate forms of personal *Presence*. I am aware that this layout starts at an hypothetical assumption of the primal body named atom with static and motic possibilities: but does not state the dependence of atoms upon Infinite Substance filling space called ether, the impact of energy from which either communicates the combining and separative power to the atom or awakens latent capacity of career belonging to it.

Taking this last statement into account etheric and inter-etheric currents are brought to view as intention, extension and limitation of type of bodies

in conscious formative procession. Let us ask *what* and *how*, rather than *who* and *why*, as has been the burden of the spiritist and materialist of the past in the effort to comprehend the nature of things!

Conscious formative process produces, maintains and changes the forms of all the bodies provable to sentient perception, and therefore the bodies with which we become acquainted are products of, rather than producers of the metamorphoses through which we see them pass—progeny to antecedents and progenitors to sequence. The occultness of which has been intensified rather than elucidated by the persistence of naturalists in insisting that bodies capable of being seen were produced by bodies like them without accounting for the origin of these progenitors.

No end of work in mycological research has thus far resulted in nothing deeper than disputations respecting classification of blood, mucus, pus; proximate principles, pabulum and bacteria, without arriving at a reliable, clearly-proven starting point for function and factor of function without invading the almost untrodden fields of individual consciousness other than in a mass sense of illy-defined formulation of categories of being. The limitations of ether, gas, liquid, colloid and solid forms of bodies are measured by degrees of combination, interpenetration and diffusion of energy, the press or urge of which sets up and maintains form, size and longevity or duration of all the bodies observed and observable by the naturalist, viz: granule, corpuscle, tissue, organ and system as product of preordained measures of energy, upon the behest of which they all depend.

Complete category of being, process and body, then, involves love and wisdom as the moving and directing energies of Infinite Consciousness, the Plenum of Light, filling immensity; the differentiated departments of which are displayed in circles, cycles, and systems of suns, planets and inhabitants of planets *ad infinitum*.

The press, then, of the impact or epact of light + in ether awakens bonds of combining power of atoms in definite measure to form the granule, cell and corpuscle; and their aggregations subject to investigation and study by the psychist, physicist, naturalist and philosopher.

Clear apprehension of the foregoing will teach the order of production of functioning bodies to be from the simple to the complex in formation and maintenance of individuals in mineral, vegetable and animal forms: The stored energy remaining in each so long as it there finds greatest attraction for that particular measure of power which was awakened and engaged in the formation of the crystals, cells or corpuscles constituting the mineral, vegetable or animal bodies under observation.

Opportunity for oxidation and hydration, then, is necessary to the formation of crystal—the water of crystallization being an essential element to maintain that form of body: for so soon as this is driven out an amorphous powder of the metallic oxide is all that remains for examination.

In the case of crystals of silex being deprived of their water of crystallization, opportunity is presented for the hydration of the amorphous silex, and we then have a jelly-like body known as "liquid glass," which upon dehydration returns to the solid crystalline state of silex. Oxidation and hydration are the "digestion," "fermentation," "boiling" belonging to and occurring in the mineral kingdom. Cellulation is the first act of digestion—fermentation—boiling in vegetable "protoplasm," and is capable of (amenable to) crystallization by dehydration, which is exemplified in a degree in the formation of ligneous fibre out of the cambium, which is protoplasmic. When vegetable mass is deoxidized, alkaloidal residue holding high potency of stored radiance results, which may be poison, remedy or food to vegetable or animal feeders.

Corpusculation is the first digestory, fermentative, cooking act in animal protoplasm.

Nitrification is essential to form animal protoplasm out of vegetable protoplasm.

When animal protoplasm is deoxidized leucomaines and ptomaines result upon the completion of the fermentative and putrefactive digestion producing these cadaveric chemical alkaloids.

The investigation of these bodies is in its infancy, and we have much to learn before cataloguing all of them that are found, as really chemical individuals with provable identity. But we are certainly nearing the point of illumination on this subject which will enable us to detect the antecedents of specific sicknesses more clearly than ever before. Shall we not soon be able to antidote or abort all the exanthems resulting from infection by microbes?

I deemed it requisite to deal with histological physiology and retrogressive changes in protoplasmic bodies before detailing manipulations of using sterilized sponges, to fill the gap where tissues are lost, as a receptacle of the exudate to form the clot which is metamorphosed into protoplasm and embryonal corpuscles to form nerve-plates, muscle-plates and bone-plates, out of which the new growth of tissue may arise in such exact imitation of the original parts as to defy detection as new growth by any macroscopic examination.

The practice has now been followed long enough to confirm the hope and expectation first awakened when, some two years and more since, I was induced to attempt it. The liability of failure will be lessened if the requisite conditions be well observed:

1. A good state of blood-crasis.
2. Complete removal of dead or greatly debilitated tissue.
3. Equable tension of the sponge-graft.
4. Complete coaptation of flaps of flesh over sponge graft, excluding all possibility of outward infection.
5. Hygienic condition surely maintained. First intention will then follow in flesh wounds and thoroughly disinfected old sores.

Where it is impossible to secure good flaps large enough to cover in the sponge, I would not abandon the practice of using sponge as a means of filling out the part to normal size, but would let the sponge come fully to the surface and a little more, covering it in with sterilized gauze, over which only light bandages should be used.

Two cases have proved failures in my hands, I *now* know because they were inserted before the parts were in proper condition. Several partial failures of the sponge to "take" at certain places have made it necessary to clip out the part in which the new growth failed to appear, until the portion with copious "blood islands" afforded evidence of abundant supply by the blood freely following the removal of the sponge, which was without blood in it. The "tacked" portion is then disinfected with either bichloride of mercury solution or, what I now prefer, potassio mercuric iodide one-sixth as strong as the bichloride of mercury solution. My habit is to use the pot. merc. iod. solution (1 grain to 6 ounces of water, with about 1 ounce of alcohol in it to prevent formation of the red iodide of mercury during solution) two or three times a day as a spray, to insure aseptic state of the parts. One further statement deemed important is: disregard of extant doctrine about the necessity of removing all the blood-corpuscles from the site of lesion where we desire to secure healing by first intention.

The coagulable character of the whole column of good blood is to be conserved and courted, rather than removed and stanched, until no red corpuscles are in the tract of the wound.

The best results I have ever seen have been in cases where coaptation of the lips directly over the sponge, without removing any of the oozing blood, was adopted; the great majority of which sealed up without any pus or other retrogressive form of the clot.

My natural timidity, and faith in others almost to a fault, yet stands in the way of instant obedience to the clearer sight of immediate revelation of the *what* and the *how* of surgical procedure. It is only that good may be done to like minded men, and through them to suffering humanity, that I earnestly counsel obedience to the revelation of truth in ourselves rather than to abjectly copy the lame instructions embodied in voluminous repetition of the effete doctrine of text-books.

The whole system of drainage so strenuously insisted upon in text, and in hospitals, and in private practice, is a mistake, and a tacit confession that the dead and decaying part had not been thoroughly removed and the tract surely asepticized.

STATISTICAL REPORT OF 5700 CASES OF EAR-DISEASES, CLASSIFIED BY AGE, SEX, OCCUPATION AND DISEASE; CAUSATION.

Read in the Section on Otology of the Ninth International Medical Congress.

BY S. S. BISHOP, M.D.,
OF CHICAGO.

The following statistical tables represent the records of 5,700 cases of diseases of the ear treated during the last eight years at the Illinois Charitable Eye and Ear Infirmary, in Chicago. I have added a relatively small number of unselected cases from the records of my private practice to supply the place of those whose records were incomplete. The purpose for which the classification was begun was to establish a basis of calculation of the influence, if any, exerted by occupation, age or sex in the causation of ear-diseases. The condition of each patient at the time he first presented himself at the clinic was recorded in order to determine the relative frequency of the different diseases.

As is usual in charity hospitals, a very large percentage of those who applied for treatment belonged to that class of laboring people who have no definite trade or fixed occupation. It is interesting, also, to note that the last decade embraced what might be called the vagrant era of the century in this country, for there never was a time in the history of America when such vast numbers of men were unemployed and leading nomadic lives. This may partly account for the fact that about one-third of the adult males are herein classed as being without occupation. In order to facilitate investigation and simplify the tables as far as possible, all those occupations which were closely related to one another in nature and effects were grouped under one heading, so that the twenty-four which appear really represent about double that number. For example, under the heading of clerks, were embraced salesmen, book-keepers, office employés, etc.; with teamsters were grouped car-drivers, peddlers, etc.; cooks and bakers were classed together; brass-molders, iron-molders, etc., were classified with iron-workers; plumbers, gas- and steam-fitters appear together; such closely allied occupations as stone-cutters, stone-masons, bricklayers and plasterers, in which the influences and exposures are very similar, are grouped together under the head of day laborers—a term borrowed from the laborers themselves.

The abbreviations employed are:
Ac., for acute inflammation of the middle ear.
Ac. S., for acute suppurative inflammation of the middle ear.
C. N., for chronic non-suppurative inflammation of the middle ear.
C. S., for chronic suppurative inflammation of the middle ear.
Ext., for diseases of the external ear.
Int., for diseases of the internal ear.
D. M., for deaf-mutes.
W. No., for whole number.

Occupation.	W.No	Ac.	Ac. S.	C.N.	C. S.	Ext.	Int.
Miners	10			6	4		
Firemen	10			9	1		
Coopers	10	1	3	5	1		
Butchers	11	1		6	3	1	
Packing-House laborers	12	1	1	8	2		
Engineers	13			10	2		1
Cigar-makers	15	2	1	6	3	3	
Plumbers	16	2	1	7	1	5	
Boilermakers	19		3	10	3	3	
Tinners	20	1	4	9	5	1	
Shoemakers	22		2	14	1	4	1
Bakers	22	1	2	14	4	1	
Printers	30		2	10	12	5	1
Tailors	31		2	18	8	2	1
Blacksmiths	38	1	2	26	3	5	1
Painters	47	3	1	26	10	6	1
Sailors	47	1	2	28	9	5	2
Railroad laborers	58	2	5	35	12	3	1
Farmers	74		1	55	18		
Carpenters	80	3	4	57	8	6	2
Iron-workers	84	4	4	54	11	10	1
Teamsters	85	12	11	33	23	6	
Factory hands	108	6	13	59	19	9	2
Clerks	232	17	19	117	39	36	4
Day laborers	496	27	26	300	77	60	6
Total,	1590	85	109	922	270	171	24

SUMMARY.

	W.No	Ac.	Ac. S.	C. N.	C. S.	Ext.	Int.	D. M
Adult males without occupation.....	810	43	31	485	197	46	7	1
Female adults.....	1662	75	63	1070	317	106	27	4
Boys, 6 to 15 years..	557	35	28	230	205	34	19	6
Girls, 6 to 15 years..	562	32	22	225	232	35	11	5
Boys under 6 years	243	11	21	41	125	26	8	11
Girls under 6 years	276	11	26	45	139	38	9	8
Occupations.....	1590	85	109	922	279	171	24	
TOTAL,	5700	292	300	3018	1494	456	105	35
Per cent. of W.No.		5.1	5.3	53.	26.	8.	2.	.6

The tables show that more than one-half of all the occupations were in-door. Of the 1590 males with fixed occupations, 920 worked out-of-doors and 670 in-doors. Add 1662 female adults who lead in-door lives to the 670 adult males with in-door work, and we have 2332 patients that spend most of their lives within doors. To the 920 men who do out-door labor we may add the 810 adult males who were without trades or any definite means of subsistence, and it gives 1730 men who probably pass most of their days in the open air. Thus the excess of patients of the in-door class over those who lead out-door lives amounts to 602, or about 15 per cent. of the whole number of adults. These facts are significant when we take into account the slight difference between the number of males and females affected under the age of 15 years.

Sex seems to have no influence in the production or prevention of these diseases. It appears from this that up to the age of 15 years ear-diseases afflict both sexes nearly equally. Possibly a reason for the slight difference which appears in the number of male and female cases during the first 15 years of life may be found in the similarity of the lives and habits of the sexes during this early period. But the classes of society that afford clinical material at the medical charity institutions of this country are such that necessity requires them to abandon the pursuit of education at about the fifteenth year, and to enter upon bread-earning vocations. From that time the divergence in habits increases. The males are either out-of-doors more than ever, or confined chiefly to mercantile houses and factories. The females become domestics, clerks and shop-girls.

American residences and business houses are heated in cold weather by dry hot air and kept at a temperature of 70° F., or higher. The inmates are subjected to the action of this dry hot air, often laden with dust and noxious gases, the greater part of every day. The skin, consequently, is very active in its functions, and kept moist by free perspiration. But, though constant exposure renders the soldier, Spartan-like, indifferent to cold and storms, housing the body makes it tender, like the hot-house plant, and sensitive to sudden and extreme changes in the air. After working all a winter-day in a temperature of summer heat, these people, with the powers of resistance reduced by fatigue and hunger, pass out immediately into a frigid atmosphere, with the temperature perhaps from 40° to 70° F. lower than that of the work-shop. The skin is chilled, the perspiration checked, and a determination of blood to some internal organ occurs. Naso-pharyngeal catarrh is probably the most frequent consequence. This result is aided by high winds and the inhalation of dust. In fact a very large percentage of naso-pharyngeal catarrh is undoubtedly due to the irritating effects of dust, and this, operating in conjunction with cold damp air, is largely responsible for the wide-spread existence of naso-pharyngeal catarrh among Americans. It is undoubtedly the most prevalent disease in this country. The importance of this fact is obvious when we consider that so large a number of middle-ear affections originate in naso-pharyngeal inflammation which extends from that cavity through the Eustachian tube to the tympanum. Critical examination of the throat demonstrates the existence of throat-trouble in a large proportion of these cases. Hence, whatever causes a catarrh of the nose and throat is interesting to the otologist as a proximate cause of ear-disease.

The exanthemata are frequent causes of ear-trouble during childhood, but youth seems to predispose to coryza which is often a forerunner of tubal and tympanic catarrh. Children under 15 years of age constitute about 28.5 per cent., or more than one-fourth of the whole number of cases. Very many of them dated back to attacks of scarlet fever, measles and the earaches and "running-ears" of infancy, so that a much larger percentage than appears should probably be credited to the period of childhood. Only a small proportion of children were brought for treatment during the acute stage of inflammation. Only 13 per cent. were acute cases, leaving 87 per cent., or more than six times as many who had not applied for treatment until the inflammation had reached a chronic stage. Indeed only 11 per cent. of the adults were seen in the acute stage.

The tables show a large percentage of diseases of the external ear. Since impacted cerumen may be regarded as a symptom and a consequence of chronic non-suppurative inflammation of the middle ear, due consideration should be given this fact in estimating the relative frequency of affections of the middle and of the external ear as shown in these tables.

It may be permissible to cite a few facts that do not appear in the tables, but which, nevertheless, were impressed upon me by a personal study of this class of patients. Although the whole State of Illinois contributed largely to the number embraced by these statistics, a large majority were residents of Chicago, a very cosmopolitan city. The foreign element predominates. The nationalities were not recorded except in resident infirmary cases, but the Irish constituted a very large, and the French a very small percentage of our clinical material. The North of Europe furnishes a far greater percentage of our population than the Southern portions. After considering the nationalities it will not be surprising when it is stated that the blondes exceed the brunettes in number.

It was observed also that the nervous temperament was the prevailing one. Another matter of interest to the etiologist, and to the student of sociology as well, was the conspicuous absence of baldness among these people, for cold draughts of air on heads

deprived of Nature's covering are considered as being a prolific cause of catarrh, by some authorities.

This brings us to a consideration of the last topic of this paper: climatic causes. In speaking of climatic conditions as standing in a causative relation to ear-diseases, it should be understood that reference is had to those atmospheric conditions which are characteristic of Chicago and its vicinity, although they may not be peculiar to it. A sudden great fall of temperature, accompanied with increased humidity of the air, is usually followed by an increase in the number of new patients with acute diseases of the ear, and of chronic cases with acute symptoms. These effects of atmospheric variations occur with such uniformity that we may predict an increase or decrease in the number of acute diseases with a reasonable degree of accuracy by observing the meteorological variations. Our climate is rugged, but the people born and reared in it do not seem to partake of its robust character. The altitude is low in the Mississippi Valley and the thermometric changes are sudden and great. It is not unusual for the thermometer to fall 20° or 30° F., or more, in a few hours. Indeed, cold-waves sweep suddenly over the country in summer time, cooling the heated atmosphere so quickly and so thoroughly that one must needs change from summer to winter clothing with haste or suffer from the chilling winds. Add to these causes of great circulatory disturbances the irritating effects of constantly inhaled dust, which the ceaseless winds keep in never-ending motion, and the problem of the prevalence of naso-pharyngeal, tubal and tympanic catarrh in our climate is in a great measure solved.

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THE TREATMENT OF HYPOPYON KERATITIS WITH FREQUENT IRRIGATIONS OF CORROSIVE SUBLIMATE.

Read in Section on Ophthalmology and Otology, at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

BY F. C. HOTZ, M.D.,

OF CHICAGO, ILL.

Progressive suppuration of the cornea is unquestionably an infectious disease, and the destruction of the micro-organisms is the surest means of arresting the progress of suppuration. On this account the application of white heat (by electro-cautery or otherwise) along the line of demarcation has proven so successful that it became a great favorite with ophthalmic surgeons. But it is a treatment that cannot be trusted to any one but an expert; it destroys a certain amount of corneal tissue, thereby increasing the loss of substance, and the size of the resultant cicatrix; in the eyes of the laity it looks frightful and may easily create the impression that "the burning of the eye" has done all the mischief, if the case should take an unfavorable termination; and, lastly, the cauterization of the cornea does not affect the micro-organisms which may have entered the anterior chamber, and therefore has no effect on the hypopyon and iritis.

I therefore thought the question worthy of our consideration, whether we could not attain the destruction of the micro-organisms just as promptly, and more thoroughly, by a simpler and less heroic treatment than cauterization; and during the past winter I made a series of experiments to answer this question. In deciding upon the drug for my experiments I had to choose one that would be well tolerated by the eye, and passing through the cornea would be diffused in the aqueous humor in sufficient strength to exert its germicidal powers upon the contents and surroundings of the anterior chamber. It seemed to me that corrosive sublimate would best fill these requirements. A solution of 1:5,000 is not irritating to the eye; it certainly is taken up through the cornea into the anterior chamber, like solutions of atropine or eserine; and though it be greatly diluted by the aqueous humor it is known to be an efficient disinfectant and germicide in much weaker solution than 1:5,000. It was only necessary to keep the aqueous humor continuously charged with sublimate until all infectious germs were destroyed and until there was no possibility of further immigration of micro-organisms from the corneal tissue.

To accomplish this object the following plan was adopted: The conjunctival surface of the lids and globe was thoroughly and repeatedly washed with the solution (1:5,000) until no trace of mucus was discovered in the fluid; then both eyes were bandaged with compresses wrung out of the solution, and the sublimate instilled into the affected eye every hour. In dropping the solution into the eye the patient's head was well thrown back; the upper lid was lifted up with the finger and firmly held away from the eyeball for one minute at least, so that during this time the whole cornea was fairly inundated with the instilled solution.

As soon as the appearance of the eye showed a decided improvement (and in every case this was manifested in 12 to 24 hours), the intervals between instillations were lengthened to two hours, and from that time on were gradually made longer in proportion to the better condition of the eye; when the hypopyon and the pus-infiltration of the cornea had entirely disappeared the applications were reduced to three per day, and kept up until the cicatrization of the ulcer was complete.

This treatment seems rather tedious; but when we take into consideration the fact that the frequent instillations are only required for 24 hours, and that any faithful person can attend to them, the treatment appears very simple; and in the 12 cases in which it was tested, it certainly proved very successful. In every case, no matter how extensive the infiltration of the cornea and how large the hypopyon, the progress of suppuration was promptly arrested, in 24 hours there was a marked decrease in size of the hypopyon (or, if small, it had disappeared entirely), and of the characteristic cream-yellow infiltration of the edges of the corneal ulcer. In no case was the cornea perforated if perforation had not occurred before the patient commenced treatment, and the resultant scars seemed less opaque than I have found them after other modes of treatment.

All the cases were kept under observation until the defect in the cornea was completely repaired; the time of treatment varied, of course, according to the gravity of the case. Several typical cases of ulcus serpens with small hypopyon recovered in one week; one similar case with pus filling one-third of the anterior chamber got well in 12 days; one other in 18 days; one eye with large central ulcer, with a streak of pus infiltration 4 mm. wide, extending from the ulcer down to the lower margin of the cornea, recovered in 3 weeks with only a small haziness in the centre of the cornea. Even in the severest cases the time did not extend beyond one month.

In one case the treatment was put to a very severe test. A little boy 3 years old was brought to me on the 18th of February. For three weeks his left eye had been inflamed, and from the first his mother had noticed a yellow spot in the cornea. Her physician, making light of the trouble, told her the eye would be well in a few days; but it grew visibly worse from day to day. The child was manifestly in great pain; his lips were parched, his tongue dry, his breath very offensive. The upper eyelid was swollen enormously, so that it was very difficult to open the eye far enough to examine the cornea. The ocular conjunctiva was very red and œdematous, cornea smoky, and in its temporal half a pus infiltrate 7 mm. long and 4 mm. wide, its irregular borders considerably raised over the level of the surrounding surface. In the deeper layers of the cornea the pus extended even far beyond the surface margin of the infiltrate; hypopyon of 4 mm. In this case I used the solution 1:2,000. The next day the hypopyon was smaller and the suppuration of the cornea had not advanced. On the second day it was decidedly less; on the third day the œdema of the upper lid and the chromosis of the ocular conjunctiva had subsided, and the last trace of hypopyon disappeared. By the fourth day the whole area of the corneal abscess was transformed into a simple ulcer with gray margins, and on the 4th of March this ulcer was healed, the gray opacity measuring 4 by 2 mm., the pupil regular and free. This case was not in a hospital under the care of a trained nurse, but the treatment was entrusted to the boy's mother, whom I showed the proper way of applying the solution, and who fully understood how much depended upon her following my instructions to the letter.

103 State St.

CANCER OF THE RECTUM.

Read before the Louisville Medical Society,

BY JOS. M. MATHEWS, M.D.,

PROFESSOR OF PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL LECTURER ON DISEASES OF THE RECTUM, KENTUCKY SCHOOL OF MEDICINE; VISITING SURGEON TO LOUISVILLE CITY HOSPITAL AND STS. MARY AND ELIZABETH HOSPITAL, LOUISVILLE, ETC.

That was a quaint description of cancer given by Lorenz Heister, in 1731, in which he says: "When a scirrhus is not reabsorbed, cannot be arrested, or is not removed by time, it either, spontaneously or from maltreatment, becomes malignant, that is, painful and inflamed, and then we begin to call it cancer." We are amused at this homely definition by the old master, but when we stop long enough to think, we can honestly ask ourselves, "How much beyond this have we advanced in the study of this much dreaded disease?" Even with our much vaunted knowledge of anatomy, histology and pathology, the most learned of us call a halt before pronouncing upon the character of tumors; drawing the line, as it were, between benign and malignant growths. The daily press heralds one day that the Crown Prince has a warty excrescence in his throat; the next cablegram is that it is a deadly cancer. The great surgeons disagree, and it is agreed to send a *specimen* to the learned Virchow, and have the *microscope* settle the disputed question. An American doctor on the Western plains might ask, "What is the use of all this? Can't they tell by looking at and feeling the growth?" In other words, are not the physical signs and clinical history of much more value in determining the nature of suspected tumors, than anything that the microscope can reveal? That the *cells* have proved inefficacious, the *alveolar* formation not a certainty, and *epithelial proliferation* not a guarantee, is admitted, or at least mooted. So it may be, as Billroth says, "In a hundred years will they laugh at our present anatomical and clinical definitions of cancer." There are two questions that force themselves upon our attention at once, when dealing with suspicious growths: 1. Is it a malignant or non-malignant tumor? 2. Is its removal advisable? To tell a person who comes to you for honest advice, that they suffer from cancer, when there is a doubt, is little less than criminal, and yet there are circumstances that might demand a positive opinion, if such was held. I am not in the habit of telling my patients of the existence of cancer. By so doing I am satisfied that life is shortened. Thus we see that a diagnosis becomes of the greatest moment. How are we to arrive at a correct conclusion?

Diagnosis.—It is not the purpose of this paper to deal with the histological aspects of cancer. In making a diagnosis of the disease I seldom rely on the microscope. In my opinion the clinical features are of the most importance. My remarks apply equally to cancer wherever located, deeming the characteristics of the disease the same without regard to locality. Without stopping to argue, I will state a few observations that I believe to be facts. I am firmly convinced that cancer is a local disease, due to traumatism and irritation, and that heredity plays no part in it. I have long since ceased to question for family history. If it should exist I would take it only as a coincidence. More escape cancer, in my opinion, where family history of the disease exists, than have it under the same circumstances. The so-called *cachexia* of cancer is misleading. In advanced stages of the disease I have sometimes anticipated, but not recognized it. The same appearance may be seen under many conditions. The same pallor, emaciation, etc., arise from other diseases. I do not believe in any *facial* indication of cancer. If it exist, it is due to *fear* rather than infection. The man under sentence of death

is likely to have it. Neither do I believe with Mr. Allingham and others that the *odor* of cancer is pathognomonic. I am sure that in many cases it is absent. The authors are accustomed to give *hæmorrhage*, or a disposition to bleed, as one of the symptoms of cancer. It is not at all characteristic. I have now under my observation five cases of cancer; none of them have ever lost enough blood to call it a factor in the disease. *Pain* is pronounced a prominent symptom; even its *character* is said to be peculiar. My record book will show a number of cases that have died with the disease, and pain never existed to any degree. *Age* is said to play its part as well. Indeed, I have heard some physicians exclude the thought of cancer because "the patient was too young." In my experience I have met with two cases of cancer in patients under twenty years of age, and one under seventeen. The majority of such cases observed by me have been under the age of forty-five. *Touch* is said to indicate much in determining the diagnosis. I have often felt for that *gritty* feel, and not found it. Hence I am inclined to believe that one or more of the so-called symptoms of cancer may be absent. If, then, the microscope is not infallible, and many of the physical signs absent, how are we to determine the question? I shall only speak of making a diagnosis when the disease is located in the rectum, and deal with the distinction between malignancy and non-malignancy, not caring to enter into a discussion of the different classifications of cancer. I recognize the fact that certain conditions are malignant which are not cancerous, yet I deem it quite sufficient for the purpose of elucidation, to speak here only of these two types. To attempt anything further than this would bring us into the consideration of many knotty questions. We have attempted to show that it is a difficult thing to be certain in a diagnosis of cancer, and I am equally sure that the uncertainty is just as great when we attempt to designate the time that a benign tumor has become malignant. After a learned dissertation upon the histological aspects and microscopical evidences of cancer, Billroth says: "I acknowledge that it is difficult to distinguish carcinoma from adeno-sarcoma and alveolar sarcoma." Therefore, to sum up in the matter of making a diagnosis, I would say that the symptoms to be relied on most are: (*a*) The disposition to ulcerate; (*b*) rapid infiltration; (*c*) secondary deposits. Certainly these are more trustworthy than many of the so-called symptoms, or the revelations of the microscope. *No surgeon should be guilty of making a positive diagnosis of cancer, with or without the microscope, until he has learned the clinical facts of the case.*

Method of Diagnosing Cancer of the Rectum.—Nothing should be taken for granted in examining a patient for rectal disease. I have known cancer of the rectum treated for piles, and *vice versa*. A history of the disease, with symptoms, should be related by the patient, and not by a second party. If cancer be present, some or all of the following symptoms will be mentioned: Pain in the back and thighs, lassitude, morning diarrhœa, flatulency, straining at stool, the passage of some blood, mucus, or pus. All these may arise from simple ulceration of the gut, but they are, to say the least, suspicious. An examination of the rectum should now be made. The best position for the patient is upon the left side. An inspection of the external parts may reveal much or nothing. It is generally stated that cancer frequently begins at the anus, especially the epithelial variety. This is not my experience; out of an observation of at least one hundred cases the fewest have had their origin at this site. Should this be the part attacked, an external observation, of course, will reveal the fact; if not, then but little evidence will be shown on the outside of the rectum. I have had many cases come to me for examination for some supposed trivial rectal trouble, and it revealed the rectum filled with a cancerous growth. After a thorough inspection of the external parts, the rectum proper should be examined. This should never be neglected. I have known patients to be operated on for fistula in ano, the surgeon neglecting to examine the rectum, where a cancer existed. Upon more than one occasion I have seen patients who had their *piles* (?) operated on by tying, or injecting a portion of the cancerous mass. The best method of examining the rectum is with the finger. It should supersede all instruments. I have long since discarded the speculum save in the fewest of cases. There are but two conditions, to my mind, with which cancer in the rectum could be confounded: 1. Simple ulceration with inflammatory deposit. 2. Sympathetic ulceration, with consequent stricture. Mistakes have often been made. I have made them. *First.* From simple ulceration with inflammatory deposit. Simple ulcerations can usually be traced to some definite cause, as dysentery, foreign bodies, etc. To the touch the induration has a smooth, continuous feel. The ulceration is more or less clear cut, and the discharge is like that from the same kind of ulceration elsewhere. If epithelial cancer, a firm growth will be felt involving only the mucous membrane at first, and freely movable. If scirrhus, *hard* nodules are found around, and involving, the prostate gland. If cancer proper, secondary deposits occur in lumbar glands, groin, liver, etc. If simple ulceration, there is no disposition to infiltrate, or of the growth to break down. If cancer, the tissue yields to pressure, and infiltration takes place rapidly. Hæmorrhage from either condition is hardly a factor, as neither, in my experience, bleed much, except in rare instances, as for instance the uncovering of an artery by degeneration of its coats in cancer. The odor, as I have said, is not pathognomonic. Some confusion might arise over gland involvement. It is true that simple inflammatory action in the rectum may excite the same condition in the adjoining glands, as in the axilla, from mammary irritation, or in the groin, from rectal inflammation. The question would naturally arise, "Is an inflamed gland already infected?" I could scarcely admit this as a principle, and yet no one can definitely say just when lymphatic infection takes place.

Second. From syphilitic deposit with consequent stricture.—Whenever ulceration is found in the rectum

it is well to suspect syphilis as a cause. I make this rule apply to all stations in life. The rich and the virtuous may be the victims as well as the poor and degraded. In an article read before the Kentucky State Medical Society several years ago I maintained that syphilis was the *most* frequent cause of stricture of the rectum, and not cancer as stated by some. I am equally sure that many cases of syphilitic ulceration of the rectum are mistaken for cancer. Anticipating syphilis then in all these cases the history should be traced, and the throat, skin, scalp, shins, etc., carefully examined:

Case.—Dr. B. asked me to see a young married woman, with him, who was suffering from a stricture of the rectum. The doctor was inclined to believe that the condition was caused by pregnancy, the patient having borne a child about a year before. Upon examination a stricture was found, beginning one inch above the sphincter muscle. It was impossible to introduce the smallest finger through it. A free division was made through the constricted surfaces. After this her general health improved and she took on flesh. During one of her visits to my office she remarked that she had failed to call my attention to an eruption that had been on her body for some time. I looked at it and suspicioned syphilis but referred her to a dermatologist who pronounced it some skin trouble and prescribed an ointment. She used this for a long time without effect. I then put her on fifteen gr. doses of iodide potassi, and at the end of three weeks the eruption had disappeared. Arguing from cause and effect I concluded that this woman had syphilis and that this disease was the cause of her stricture—I am certain that the woman was virtuous. There is a wide difference to the feel between cancer of the rectum and syphilitic stricture. The induration from syphilis is firm but not nodular and does not yield to pressure. There is no rapid infiltration of tissue and contiguous parts are scarcely invaded. The discharge from syphilitic ulceration is more like that from simple ulceration, and not like the degenerated tissue discharge of cancer. The strictures from syphilis are like fibrous bands, while from cancer they are nodular bands which degenerate. Hence I imagine that the diagnosis between syphilitic ulceration of the rectum and cancer can be easily made.

Treatment.—The treatment of cancer of the rectum involves more serious questions than when dealing with cancer of the breast, lip, tongue, and many other favorite sites of the disease. Ordinarily, the question of removal of the growth is the first to present. In cancer of the rectum it must needs be the last considered. It is quite an easy thing to remove the mammary gland, or excise an epitheloma from the lip. It is a much more serious thing to remove the rectum. Those who advocate the removal of cancer do so for the following reasons:

1. It may effect a cure.
2. If not, it prolongs life.
3. It removes from the sight the offending mass.
4. It lessens, or eradicates pain.
5. For physiological effect.

As I shall take exception to some of these, you will permit me to deal with them separately. 1. It may effect a cure. That some forms of malignancy have been cured by operation cannot be denied. I have known cures to result from the extirpation of epitheliomas, say of the lip, eye-lids, etc. It has been my fortune to witness many removals of the mammary gland for cancer, it has been my misfortune to know that each time the disease returned. Of course other surgeons can report better success than this. I have often wondered if the bad success in this particular operation was not due to the method of operating. With all due deference to my antiseptic friends, I am not yet convinced but that the plan of Volkman, to remove the whole breast and allow it to heal by *granulation*, is the proper one. We often wonder if some of the cancer cells have not been left within the *flaps*. Pus here would not be so dreadful an enemy as it is often made out to be. Surgeons will often extirpate the breast, and leave untouched the axilla, filled with infected glands, or perform hysterectomy with all the adjoining lymphatics embraced in the disease. We have all seen patients submitted to an operation when a clearly defined cachexia existed. All this leads me to say that I believe that the operation for cancer is done much too often, many times when there is no earthly chance of doing any good. This is wrong, and subjects the profession to criticism. May I not say to *just* criticism. In collecting data for the successful operations for cancer, statistics are very unreliable. As this paper has indicated, perhaps, the disease was not cancer, or the time elapsed was not sufficient to base an opinion on. According to the observations of Paget, Sibley, Billroth, Allingham and others, the duration of life in patients with cancer, from the first manifestation of symptoms, is three to four years. No one can say how long the disease actually exists before the symptoms are made manifest. Suppose then that a surgeon collecting statistics for his successes in these cases affirms a cure before the expiration of this time, or that he had even prolonged life. It could be replied that patients had lived as long *without* an operation. Some time ago I made a report of two successful operations for cancer of the rectum. Since that time one of the patients has died with the disease, although he lived several years after the operation. Billroth reports thirty-three cases of the removal of cancer. Thirteen died of the operation, aud the remainder all died within two years, most of them of recurrence. With such results from such an authority, ought we not to think seriously before doing the operation?

Second.—The operation may prolong life. To my mind this is an unproven claim. I believe rather that surgical interference often hastens a fatal result. I know that the great majority hold a different view, but when the disease has become constitutional, the blood corpuscles already changed by the action of the juice, or cancer cell, it is hard to believe that the removal of the growth will stay the disease. When lymphatic infection has once taken place, we have yet to discover that power which will prevent its steady march. Patients die of the constitutional, not the local effects of cancer.

Third.—It removes from sight the offending mass. This can only apply to growths on the external surface of the body. I must confess that the reason carries much weight with it, but would the patient not be a great convert to astheticism to ask an operation for this cause only? It would be like painting Camille's cheeks with rouge during her death struggle.

Fourth.—It lessens or eradicates pain. In answer to this I would say that the truth of this depended much upon circumstances. If the cancer be located in a part where there was great nerve involvement, it would be likely to involve more than could be removed, and we know that a partial operation would accomplish but little. If a cancer absolutely interferes with the use of an organ, say the eye, tongue, etc., I would much prefer to remove the growth because it did so, than because of the pain it excited.

Fifth.—For physiological effect. I must say that I see more plausibility in this reason than in reason third. If the patient is convinced that by operation something has been done looking to a cure, then there is surcease of sorrow, at least for a season. Yet I do not believe from a surgical standpoint, that the operation should be done either for the third or fifth reason alone.

Methods of Operating.—There are two plans suggested in a surgical way, for the relief of cancer of the rectum, viz.: extirpation and colotomy. In a word I would say that if an operation for the removal of cancer is decided upon, then a *sweeping* operation should be done. I would never remove a *segment* of the rectum. If an operation is called for at all it requires the removal of the rectum in its entirety. From my own experience and that of others, backed by pathological reasons, I am constrained to say that I do not believe extirpation is warranted in cancer of the rectum. My reasons for opposing *colotomy* as a means of relief in many of these cases, were recited in a paper read before the International Congress, and will appear in the published proceedings of that body.

FORENSIC RELATIONS OF THE PUERPERAL MENTAL STATE.

Read in the Section on Medical Jurisprudence, at the Thirty-Eighth Annual Meeting of the American Medical Association, June, 1887.

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The mental state of the puerperal female has not received the attention its forensic importance merits from lawyers and physicians, owing to the erroneous lay opinion, shared by many members of the medical and legal professions, that pregnancy is now, what it once was in the history of the race, a normal physiological process.

Pregnancy, if regarded in this light, stands alone, since no other physiological function presents the pathological phenomena: pulmonary, cardiac, gastric, renal, cystic, nervous and other disturbances characteristic of pregnancy. Even "labor," that terminates pregnancy, is characterized by the pathological phenomenon "pain." It is illogical to speak of a condition in which *pain* is present as a physiological state. Pregnancy unattended by pathological phenomena is the rare exception, so rare that it may well be doubted whether these cases are properly observed, since too little attention is paid to nervous and mental phenomena that do not reach the dignity of paralysis, spasms, contractions, amaurosis, amblyopia, odontalgia, hallucinations, delusions, maniacal outbursts or furor. That pregnancy at one time was a purely physiological process may be admitted; that it now is no one but a *doctrinaire* will claim after careful examination of the subject.

Many causes have contributed to transform this originally physiological state into a pathological one. Dr. Clevenger most ingeniously points out, for example, that "if we are to believe that for our original sin the pangs of labor at term were increased, and also believe in the disproportionate contraction of pelvic space being an efficient cause of the same difficulties of parturition, the logical inference is inevitable that man's original sin consisted in his getting on his hind legs." To this original sin of assuming the erect position have been added the effect of atrocious modes of clothing, feeding, housing, employing and training one part of the race, which have checked their pelvic development while other forces have augmented the cephalic development. From almost the beginning of the race forces have been at work which have decreased woman's usefulness purely as a woman, and made her, man's embryological superior, his actual inferior in the struggle for existence.

The Teutonic races, in which woman held a high place, have too often accepted the Latin doctrine, that there was nothing more than woman's caprice in the mental state of the pregnant woman, and have held her strictly responsible for the results of what their public opinion held to be a pathological state. As Ben Jonson's plays show, Anglo-Saxon popular opinion regarded the pregnant woman as irresponsible for her "longins';" a most natural and just view, since on careful analysis of the mental condition of the pregnant woman it is apparent that this is always affected by more or less morbid perturbations of the (monarchical) cerebral vaso-motor centre, secondary: *first*, to pelvic fluxionary changes; *second*, to irritative conditions; *third*, to conditions of exhaustion; *fourth*, to pressure neurosis of cardiac, pulmonary, gastric, visceral or peripheral neurio-origin. These factors of disturbance are always present in the puerperal state. I include the period from conception to the termination of early lactation.

The circulatory condition of pregnancy, as Cazeaux and others point out, is essentially that of chlorosis, which has been shown to be a trophoneurosis by Dr. Hammond. The irritative conditions result from the general nervous and circulatory disturbance of which this circulatory neurosis is the expression, and are secondary to local and general inflammatory states, tears, erosions, displacements, etc. The conditions of exhaustion originate from the conditions last described, and are often secondary to severe or prolonged labor, lactation, too frequent pregnancies,

poverty and, in the abandoned and seduced, to the nervous agitation resulting from the surroundings.

The mental changes consequent in fluxionary pelvic changes are emotional morbidity, depression, abulia varying from simple apathy to extreme loss of will power, or destruction of the logical inhibitions render the pregnant woman subject to undue influence, to morbid suggestions and to pure imperative conceptions. Emotional morbidity leads to infanticide through accidental neglect. Apathetic abulia has the same consequence, since it weakens the natural affections. Abulia readily leads to infanticide through a paramour's suggestion, by the perusal of child-murder cases, morbid suggestions, cannibalistic sexual furor and pure imperative conceptions. Depression, a potent cause of infanticide in non-parturients, much more often leads to it in the pregnant, whose will and natural affections are blunted still more by the puerperal state. The mental conditions resulting from the causes mentioned are, as every obstetrician and pregnant woman will admit, peculiarly destructive of the free determination of the will.

In all Teutonic countries where popular prejudice has not intervened it is still held that there is no criminal act where the actor at the time of the offense is in a state of unconsciousness or morbid disturbance of the mind that prevents free determination of the will. According to this rule the admitted mental consequences of febrile fluxionary changes are amply sufficient to *compel* the State to demonstrate beyond *doubt* that free determination of the will of the pregnant or just delivered woman has not been *impaired.* These pelvic fluxionary changes are, as has already been pointed out, not the only influence at work. Abulia the result of disturbance of the emotional balance, one of the most common and distressing of mental states, is produced by any or all the conditions mentioned. It may vary from slight weakening of the logical inhibitions to states where they are in complete abeyance. Women otherwise seemingly healthy complain of this lack of will power or "energy," and find great difficulty in controlling themselves. In all conditions in which the will or logical inhibitions are impaired imperative conceptions arise, sometimes of pure type, sometimes suggested by morbid sensations. From these conditions also results that capriciousness which characterizes the puerperal state. Besides this caprice, emotional morbidity and abulia produced by all the pathological factors mentioned, the local effects of these factors peculiarly modify the mental state.

Pressure on the heart, lungs and stomach engenders suspicional mental states, which create delusions of persecution accompanied by ideas of poisoning and impaired appetite (of pulmonary, cardiac, or gastric origin); or of strangling and poisoning (of cardiac and pulmonary origin). Pressure on the peripheral and visceral nerves sets up various types of hyperæsthesia which persist long after the original pressure is removed, and tinge the mental state. It hence creates erotic and suspicional mental states. Any physician of extensive practice will remember cases varying from slight eroticism just beyond the patient's control to the openly expressed eroticism of puerperal insanity. The various "longings" of the pregnant woman arise from imperative conceptions either pure or dependent on perverted sensations, or from reversions to early habits of the race during reproduction. So long as these longings were of trifling character their morbid nature would not be disputed, nor considered worthy of thought; but let a pregnant woman kill and eat her husband, or a newly delivered woman, in that peculiar frenzy for blood that arises from perturbed sexual states, kill her child, and these ludicrous longings furnish a psychological key to such actions of great forensic importance. Every woman during the pregnant state is, it will be obvious, subject to influences that weaken her will, engender emotional morbidity, render apathetic natural affection, and give rise to ideas of suspicion as well as to perverted sensations and propensities.

Legally these mental states predispose to murder, infanticide, nymphomania, arson, sanguinary cruelty, dipsomania and kleptomania, either pure or resulting from a desire for possession dominating a weak will. The literature is full of illustrative instances. When a well-to-do puerperal woman steals the public authorities willingly admit the plea of kleptomania; but when the poor hunted, seduced woman steals she is too often treated as a criminal. If a married woman kill her newborn child no jury will convict her. Let a seduced and abandoned girl do the same and a public example is demanded (*pour encourager les autres*). Yet in this last case the power of self-control is much more weakened, not only from the puerperal state but from other moral effects engendered by seduction, desertion and dread of exposure. This is arrant injustice, that can only be defended on the tyrant's plea of necessity for the protection of society; a plea, as history shows, based on ignorant prejudice. Severe penalties never decreased infanticide, since the seduced infanticide never could appreciate the bearing of these penalties. This was well illustrated by Goethe, who never drew a truer or more pathetic picture than that of Margaret about to be executed for an infanticide springing from the perturbed mental state clearly evident in her last interview with Faust.

In conditions of doubt justice leans to the presumption of innocence. From what has already been said it must be evident that the mental state of the puerperal woman is a dubious one. In Illinois, it would be sufficient to make the claim that the mental condition of the puerperal woman was unsound, and the burden of proof would immediately fall on the State, in obedience to the old legal presumption of innocence in every man. In Indiana and New Hampshire the same just doctrine is held. Mental states are matters of fact, not ideal creations of law. It is sad to say that in the majority of our States the burden of proof falls on the prisoner in all cases in which insanity is a defense, and what insanity is, is determined by legal tests set up decades ago under pressure from English precedents. Barbarous as these legal doctrines are, they are held in

Alabama,	California,
Delaware,	Kansas,

Maine,	Georgia,
Massachusetts,	Michigan,
Missouri,	Mississippi,
Minnesota,	Nebraska,
New York,	New Jersey,
Ohio,	North Carolina,
Pennsylvania,	Tennessee,
Texas,	Kentucky,

Federal Courts.

These cruel absurdities have their natural result. Judges, unable to rid themselves of legal superstitions, resort to subterfuges to avoid enforcing the alleged law in cases in which crime was the offspring of insanity not covered by the legal definitions. In the infanticide case of "The People vs. Kate Harvey" expert testimony was not introduced until after the jury had convicted the prisoner; but the judge allowed the mental condition produced by the puerperal state to mitigate the sentence. The absurdity of such procedures is well summed up by Judge Doe, of New Hampshire: "If tests of insanity are matters of law, the practice of allowing experts to testify what they are should be discontinued. If they are matters of fact the judge should not longer testify without being sworn as a witness and showing himself qualified to testify as an expert."

In dealing with any forensic question the physician's first duty is to determine whether such a thing is a fact, not whether it might under certain supposable conditions have a bad effect on society. Once ascertained to be a fact, it is his duty to declare it such. In this spirit I have striven to prove that in crimes committed during the puerperal state the burden of proof lies on the State, since the alleged criminal suffers from a pathological state predisposing to violations of major and minor morality. The law, in its assumption that every one is innocent, regards crime as an unusual state, and this presumption of innocence is strengthened if the state of the alleged criminal predisposes to unwilling violations of morality.

SUBPERIOSTEAL RESECTION OF A RIB FOR EMPYEMA IN CHILDREN; RECOVERY.

Read before the Chicago Medical Society, October 17, 1887.

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I have within the past two years made subperiosteal resection of a segment of a rib for empyema in two young persons, one a boy of 6 and the other a youth of 17 years of age. The results have been so satisfactory that I desire to place the cases on record at the present time, particularly so, since able authority has recently condemned the operation in children[1].

Case 1.—In May, 1886, I saw in consultation with Dr. Charles Venn, of this city, a boy 6 years of age. The father, mother and other children of the family were perfect pictures of health. The boy was large for his age, and up to his present illness had always enjoyed the best of health. Four weeks prior he began to cough, and eight or nine days later evidences of an effusion into the right pleural cavity were manifest. In spite of appropriate constitutional and local treatment, the effusion increased, and when I saw him the chest cavity was completely filled. The boy was much emaciated with continued fever and night sweats.

A hypodermic needle thrust into the chest just above the eighth rib in the axillary line, revealed the presence of pus. Under ether the eighth rib was exposed through a parallel incision two inches in length. The periosteum, midway between the upper and lower border of the rib, was split in a longitudinal direction, the distance of an inch. By means of a blunt hook the periosteum and intercostal vessels were easily peeled off from the posterior surface of the rib, and three fourths of an inch was cut away with bone nippers. This was done without wounding the intercostal vessels or pleura. Next the internal layer of the periosteum was split to the same extent, and parallel to the external layer. The pleura was opened when two quarts of laudable pus were evacuated. The chest cavity was immediately washed out with a warm saturated solution of boracic acid, and a large rubber drainage tube retained in position.

The subsequent history was uneventful. He began to improve at once. The chest cavity was daily washed out with simple warm water. A wad of oakum was placed over the wound. The tube was kept in place six weeks, when the lung was entirely expanded and the wound healed completely. Now, sixteen months after the operation, the boy is perfectly well. The right chest is normal like its fellow, in shape and function. There is but a small scar at the seat of operation, and the rib has perfectly reformed in direction and shape.

Case 2.—Norwegian boy, 17 years of age, always delicate, very thin and poorly nourished; six feet tall, pale and ænemic. Father, brother and one sister, died of consumption. Mother alive and doing well. Patient was first taken sick about March 10, 1887. The symptoms and signs indicated pleural pneumonia of the lower lobe of the right lung. In a few days he was convalescent.

On March 24, he had a relapse, and the right chest slowly and intermittingly filled with effusion. He had night sweats, diarrhœa and cough, and a temperature of 102° to 104° F. On April 24, about five weeks from the commencement of the effusion, empyema being diagnosed by the hypodermic syringe, with the assistance of Dr. Venn, I removed subperiosteal, one and one-half inches of the 9th rib in the axillary line. Four quarts of laudable pus escaped. At the last about four ounces of clear serum passed out. Immediately washed out the chest cavity with a hot solution of boracic acid, introduced two large parallel rubber tubes with a drainage diameter of three-eighths of an inch each. These were held in position by a rubber shield and elastic bandage around the chest. The pleura was felt to be about three-fourths of an inch thick. Dur-

[1] See an article by Dr. Garnett, of Washington, on "The Surgical Treatment of Suppurative Pleuritis in Children," published in THE JOURNAL, Sept. 17, 1887.

ing the next few days there were washed out large masses of lymph. Hot water injections of two quarts at a time were used, night and morning. A wad of oakum was kept over the opening and changed often. The diarrhœa, sweating and cough began immediately to abate. The temperature in three days dropped to normal. On the first day of May, eight days after the operation, the tubes were crowded out. All the unfavorable symptoms had disappeared, he was eating and sleeping well. The opening on the inside was closed, as I then thought by the expansion of the lungs; I subsequently learned it was closed by the arching of the diaphragm. The tube was left out five days, when the temperature began to ascend, and soon reached 104. There was a return of the sweating, diarrhœa and cough. Nothing had escaped from the wound in the meantime. I then reopened the wound and washed out about five ounces of stinking pus and débris, passed a large Van Buren urethral sound into the chest, and ascertained that the lung was compressed into a small wad against the vertebral column. It had not expanded a particle. I felt the apex of the sound in the chest above the clavicle. Reintroduced longer, fenestrated drainage tubes, three inches in length. From this time on his convalescence was uninterrupted. Temperature quickly became normal and did not again rise. He soon began to go out of doors and improved rapidly. On June 12, three weeks after the tubes were reintroduced, my notes read: Boy has gained ten pounds, out of doors most all day. Eats enormously and digests it well. No cough and but little discharge. The sound in the chest shows the lung has not expanded. Put in drainage tubes without fenestra, since granulations had crowded into the former tubes so as to nearly occlude them. Sent the boy to a farm near Whitewater, Wisconsin, with instructions to keep tubes in position, and syringe out the cavity once a day with warm water that had been boiled. Ten weeks later, on August 25, he returned looking altogether different. Was twenty pounds heavier than when first taken sick, and expressed himself as never feeling better in his life. The tubes had remained in place until a few days before, when they had been crowded out and could not be reintroduced. Physical examination showed the lung expanded with good motion of the chest and vesicular murmur throughout. In a few days more the opening entirely healed and the boy left for Norway, perfectly recovered; six months from the commencement of his illness and four months wearing the tube.

It is only within a few years that surgeons have been bold enough to make a section of a rib for empyema. It is, perhaps, but natural that the operation should be condemned by those who have always used the trocar or incision. To oppose the operation on purely theoretical grounds and conclude that it is a grave and serious operation, is, I believe, contrary to the facts in the published cases.

In the article alluded to in the commencement of the paper, we find a table by a London writer of thirty-four cases of empyema, treated surgically, occurring in children of from 1 to 10 years of age. Of the number seventeen recovered after a short section of one rib had been made. The average time of recovery was seven weeks.

Dr. Garnett reasons that had these cases been treated with the trocar and drainage tube they would in all probability have recovered equally as well. Here is what he says against exsection: "When we consider the fact that the bony fabric of the chest is still in a condition of progressive development, the rapid and excessive deposit of callus following the solution of continuity of a rib protruding into the cavity of the chest, irritating the lung, the inevitable disparity and loss of symmetry in expansion of the two sides of the thorax, the growing condition of the child, which necessarily adapts itself to the physical results of the traumatic interference, establishing often a permanent deformity, associated at times with more or less spondylitis, and greatly restricted respiratory capacity of the chest, the pouch of periosteum from which the excised piece of rib has been dissected, the protracted healing and long-continued dressing of the open wound augmenting the chances of septicæmia, and exhausting the vital energies and recuperative resources of the little sufferer. We should hesitate before resorting to so grave a surgical procedure when a more simple and conservative one can be safely and successfully practiced."

Such conclusions, I think, should not go unchallenged. One does not find them from a careful study of these cases. The simple questions that I should like to invite your discussion upon is: Is subperiosteal cutting away a short segment of one rib with modern surgical treatment, liable to be followed by such grave consequences as the writer referred to would have us to believe? Free drainage in abscess cavities is the imperative rule at the present day. This is best obtained by making a patulous opening larger than is possible to make between the ribs. In my first case the rib has completely reformed. In the second it is growing again. In neither case did callus injure the lung. In both cases lung expansion and chest motion and shape are perfect. Septicæmia present in both cases, was quickly cut short by free irrigation, only possible through a large opening.

I would therefore conclude that in these two cases, section of the rib at least added nothing to the gravity of either case.

MEDICAL PROGRESS.

PRESYSTOLIC HEART MURMURS.—At the meeting of the Medical Society of London, on November 7, DR. J. S. BRISTOWE read a paper on this subject. He divided mitral obstruction murmurs into three varieties, namely: 1, one beginning from the second sound and ceasing in the course of the diastolic period; 2, one occurring isolated in the diastolic period; and 3, the murmur (to which the names presystolic and auricular systolic are indifferently applied) lying along the diastole and running up to the

first sound. He likened the sound of the last of these (which is usually louder and rougher than the others) to that of the trilled R, and the sound of the two to that of an untrilled R; but observed that, although they sufficiently often occurred, separately to merit individual description, they not infrequently coalesced, in which case the whole of the interval between the second and the first sounds was occupied by a more or less continuous roar, the earlier portions of the sound often then becoming as loud and rough as the later part. Although he admitted that the presystolic portion was usually louder, owing to the fact that it occurred while the auricle was contracting on its contents, and propelling them forcibly into the ventricle, he held that the rate of blood-flow from the auricle into the ventricle, even when the auricle was quiescent, was amply sufficient to cause the coarse vibrations giving rise to a trill; and he argued that that was the main reason why these murmurs were heard over so small an area, and that the sound was consonantal in character and not musical. He discussed the questions of the relative feebleness of the second sound due to the aortic valves, of the frequent reduplication of the second sound, and of the cause of the apex thrill, and expressed concurrence in the views generally taught. He argued that the presystolic murmur could not be a systolic murmur, as Dr. Barclay, Dr. Dickinson and others maintained, because: 1. The assumption that there is a noiseless period of ventricular contraction prior to the closure of the mitral valve is not in accordance with physiological facts. 2. If the murmur occurred during the early systole, it ought to be coincident with the apex-beat and the pulse, whereas it preceded them. 3. If this explanation of the presystolic murmur be correct, there ought also to be at the same time a presystolic aortic murmur. And, lastly, the presystolic murmurs are of the same quality as the earlier murmurs, which were undoubtedly diastolic, and are but carried back into the auricle as a regurgitant murmur necessarily must be. In the last place he drew attention to hæmic murmurs existing in the pulmonic area, and showed that they so far resembled obstructive mitral murmurs that they were rough, and that they tended to occupy the whole period of systole, and to run up to the second sound.—Dr. Dickinson, in paying a tribute to the ability of the author of the paper, expressed his regret at having to join issue with him on the subject of these murmurs. He alluded to the means of differentiating an aortic regurgitant from a diastolic murmur by change of position.—Dr. Sansom went very fully into his reasons for differing from the previous speaker, and rallying to the ideas of Dr. Bristowe and Professor Gairdner, he maintained that the snap which terminated the presystolic murmur was not due to closure of the mitral valves, but suggested that it was due to the tricuspids.—Dr. Burney Yeo said he had at one time collected a large number of heart cases, sixty in all, in six of which a well-defined presystolic murmur was present. He mentioned that in describing the character and relations of this murmur it was necessary to describe the action of the heart at the time of observation, whether fast or slow.—Dr. Broadbent said he endorsed every word of Dr. Bristowe's paper. He urged that Dr. Dickinson's assertions that the snap terminated the ventricular systole and concluded the diastolic murmur were irreconcilable. He thought Dr. Sansom's idea of the cause of the snap was probably not the correct one.—Dr. Ord contented himself with approving the ideas expressed by the preceding speaker.—Sir Dyce Duckworth, expressed a feeling of pity for the small minority who were opposed to generally received views on the subject. He regretted that the question should have once more been brought up, and trusted it would now be allowed to rest in peace—Dr. Kingston Fowler quoted the case of a lad who had a systolic thrill and murmur over the tricuspid area, due probably to tricuspid regurgitation as well as a presystolic murmur and thrill, to be felt alternately. Dr. Stephen Mackenzie concurred in Dr. Bristowe's views.—*British Medical Journal*, Nov. 12, 1887.

Surgical Tuberculosis.—40.—Tuberculous affections are very frequently multiple, because: *a.* When the virus first enters the system it is deposited in different places. The multiplicity of the foci in spina ventosa is well-known. Less consideration has hitherto been given to the acute invasion of tuberculosis with multiple foci developing quickly, one after another, in the different organs and tissues of hitherto healthy persons, in children and adults, and even in old people. The persons so attacked often succumb, but they may be completely cured, and remain healthy afterwards.

b. Or the tuberculosis may become multiple because there are different infections from without, at different times, and independent of one another. A patient suffers in youth from tuberculosis of the lymph glands, is affected by tumor albus or an arthrocace towards puberty, and dies in his thirtieth year of pulmonary tuberculosis. This is a very usual occurrence, and it cannot appear strange, since the susceptibility to the tuberculous virus is not weakened by the tuberculous disease, and in the majority of cases the individual has a heightened susceptibility for the virus.

41.—But there is no ground, in cases of multiple focal-affection, for considering the younger foci as having arisen secondarily from the older foci by autoinfection, and for considering tuberculous joint and bone diseases as of a metastatic character, as has been done a good deal of late. Thus far this metastatic character has been proved only for the localization of acute miliary tuberculosis. (Concerning autoinfection see 37, *b and d.*)

42. The operative removal of a tuberculous focus will of course render impossible the originating of an acute miliary tuberculosis, or the farther infection of lymph glands from this point; but it does not preclude the later origination of equally important affections in other places, and does not mitigate the danger of a later pulmonary tuberculosis. A person that, for example, in youth has undergone an amputation of the thigh on account of a tuberculous knee-joint affection, remains endangered for ten or fifteen

years, or at least there is something to apprehend, because the susceptibility to the tuberculous virus is shown in him, and possibly, though not necessarily, still exists.

43. Local recurrence after operations in tuberculous affections, and the fact that wounds again become fungous, find their grounds not in the constitution of the patient, in the tuberculous or scrofulous diathesis, as is generally supposed; they are much oftener due exclusively to the fact that the operation was not clean, and that tuberculous tissue was left somewhere, which afterwards again grows out and infects the healthy granulations, tissue and cicatrix.

After amputations in completely healthy parts, even in persons with advanced tuberculosis of the lungs, recurrence at the stump (fungosities of the amputation wound) do not occur. On the contrary, the dry tissues of the emaciated limbs easily heal in such cases by first intention. It is a matter of consideration, therefore, that when an amputation is done no fistula should be left in the flaps.

Nor have I ever seen in a scrofulous child or in a tuberculous one, even with manifest pulmonary phthisis, the wounds becoming fungous after an amputation on account of trauma or after the extirpation of a lipoma, etc., or in case of a wound, or an extensive laceration of the soft parts that required months to heal, or in case of a compound fracture. And I would ask whether any one has ever seen such a thing. The report of such a case, observed and thoroughly examined, would be of considerable importance.

44. In spite of all this the greater number of all tuberculous joint and bone affections is certainly to be referred to traumatic causes; not necessarily to severe wounds, but to slight trauma, contusions, distortions, that would be followed by no such result in persons who are not susceptible to the tuberculous virus. That sprains of the hand and foot frequently lead to tuberculous joint and bone affections (caries) cannot be doubted. But even spondylitis usually develops in children after such cases, or after a push, etc. It must be supposed that after a severe trauma (subcutaneous fracture, large wound, etc.) the energy of the reactive and reparative tissue-proliferation is so considerable that the development of the tuberculous germ is not allowed—an hypothesis for the admission of which the conduct of the lower organisms furnishes many analogies. On the contrary, a slight trauma easily furnishes a favorable soil for the development of the tubercle bacillus.—*Langenbeck's Archiv*, Bd. 33, Hft. 1.

(*To be concluded.*)

AMPUTATIONS FOR DIABETIC GANGRENE.—KÖNIG summarizes the practice of German surgeons as follows: In diabetics the tendency to inflammatory and necrotic inflammatory process is greater than in healthy persons. Roser and others have pointed out that necrotic processes occur more frequently even in apparently strong diabetics, and those without thirst and polyuria. In all cases in which spontaneous or even post-traumatic phlegmonous and gangrenous processes develop, the urine should be examined for sugar. This rule does not overlook the fact recognized by Redard, that in such conditions sugar and albumin may be present transitorily. According to Roser inflammation and necrosis in diabetics must first be treated constitutionally. The question of such larger operations on diabetics, as amputation for gangrene is a difficult one for the surgeon, and the general plan has been to avoid them as long as symptoms of diabetes continue. General antidiabetic and local antiseptic treatment suffices in some, but in severe cases the trouble often ends fatally.

In such a case last year König concluded to risk amputation, and saved a gouty old man (of 70 years) with gangrene of the leg. This began at the little toe, and, extending to the ankle, led to suppuration, increase of sugar in urine (from 2 to 4 per cent.), loss of appetite and flesh, coma, etc. As the patient was in an exhausted condition constriction was employed. Rapid amputation at the middle of the leg was done. Very extensive arterio-sclerosis with calcification of numerous small arteries was found. By the next day sugar had disappeared from the urine, and the apathetic condition had passed off. The wound remained aseptic; appetite returned. Diet was continued and the patient was discharged in eight weeks with no sugar in his urine. Later, however, despite antidiabetic regimen, sugar was again found in the urine.

A second case was that of a well nourished brewer, æt. 40 years, who had phlebitis of left leg two years previously, and thirst and loss of flesh for nine months. Gradual development of gangrene of left big toe, with consequent phlegmons of the foot, loss of appetite, continuous hiccough, low fever. The urine contained 4 per cent. sugar and a trace of albumin. Despite careful general local treatment the patient grew worse, although the sugar diminished to 2 and $\frac{1}{2}$ per cent. Operation as in the previous case. In four days the sugar had disappeared from the urine, and other morbid symptoms were no longer present. Discharged cured in six weeks. Here also the same arterial changes were found as before. Six months later the urine contained no sugar.

König concludes from these cases that in diabetic gangrene where, despite antidiabetic and local antiseptic treatment, the general and local symptoms do not improve, and further waiting involves danger to the patient, we should try to save life by a radical operation—usually an amputation—executed with the most scrupulous attention to antisepsis.—*Centralbl. f. Chirgie*, No. 13, 1887.—*Annals of Surgery*, August, 1887.

RETENTION OF URINE PRECEDING APOPLECTIC ATTACKS.—MR. W. GEM reports the following cases:

W. S., aged 60, laborer, of temperate habits. Has had rheumatic gout for some years. Was admitted into the infirmary in 1882, and has been readmitted off and on ever since for rheumatic gout. Heart sounds normal, but has atheromatous arteries. Has had iritis, but no other defect of vision. Urine nor-

mal. Suffered from retention for six days, after which he had a severe apoplectic attack, with consequent left hemiplegia.

C. E., aged 40, carman. Intemperate. Had rheumatism for some time. Was admitted in 1882, and has been readmitted off and on ever since for rheumatism and cardiac valvular disease. Has albumen in urine, but sight is good. Had retention for seven days, followed by an apoplectic attack and right hemiplegia.

W. C., aged 57, laborer. Intemperate. Had rheumatic gout for some years. Admitted for such in 1885. Heart sounds normal. Double optic neuritis, but urine normal. Had retention for ten days, after which he had a severe apoplectic attack and complete left hemiplegia.

G. W., aged 49, baker. Habits not known. Admitted for melancholia, and was transferred to an asylum. Being discharged some time after on trial, he was readmitted for subacute rheumatism. Heart sounds normal. Sight not ascertained (too restless). Urine normal. Had retention for four days, and and then had an apoplectic attack, with subsequent right hemiplegia.

All the above cases were treated as follows: Perfect rest, blistering the nape of the neck, croton oil, and warmth to feet, *plus* the following drugs: bromide of potassium, decoction of aloes, and compound spirits of ammonia; followed up afterwards with the iodides. The very best results were obtained by this treatment, with the exception of the last case, which is recent.

It is with reticence I bring forward the above cases, as such may have been discussed in the ephemeral literature of the day. The drugs above mentioned need no comment from me, as their actions are too evident, but I may say that I have had the most favorable consequences from them in two cases I anticipated, where retention had been complete for two or three days. The query of course arises, Would such cases have gone on to an apoplectic attack? I have every reason to suspect such an unfortunate accident, as the one patient had an intense localized headache, with retinal hæmorrhages; the other not so well marked. The first one was readmitted after some time with a recent hemiplegia, showing that such an untoward event had previously been warded off.—*Lancet*, Nov. 19, 1887.

Principles of Plastic Surgery.—In an article on plastic surgery Mr. C. B. Keetley says: It will be granted that all parts of the body are susceptible to septic inoculation, therefore one of the first rules of plastic surgery should be: *Thoroughly disinfect the parts to be operated on, the hands of surgeon, assistant and nurse, the instruments, sponges, ligatures, sutures and dressings.*

As a preliminary to the use of such germicides as sublimate and carbolic acid, a prolonged washing and scrubbing with the liquid potash soap of Dr. Duncan, of St. Petersburg, is very useful. This soap has two excellent properties, (1) it is an extraordinarily powerful solvent of dirt; (2) it is itself instantly soluble in cold hard water or antiseptic lotions so that it may be said to promptly "do its business and go about its business." But, bearing in mind that in plastic surgery, one almost always desires union by the first intention, and that irritants such as the stronger germicides are not favorable to that, *an ideal plastic operation should be aseptic rather than antiseptic.* For this reason I generally, while keeping the instruments in a tray of carbolic, dip them into a basin of recently boiled, not boiling water[1] before touching the patient with them. But when they are even temporarily laid down again, it should be either into the tray or upon a damp carbolized towel, disposed around or near the site of the operation. The same recently boiled, not boiling, water, is used as a douche and for the sponges. Some persons would prefer boracic lotion. I greatly doubt whether it has, for these purposes, any advantage over the boiled water. If the operation were to occupy days instead of say half an hour, it would be a different matter.

With regard to ligatures, they should scarcely ever be used in a plastic operation. Temporary pressure with sponge or forceps almost always suffices to check hæmorrhage. The boiled water used at a temperature of about 120° will assist. Hare-lip pins or silver sutures can be often arranged to not only adjust the parts but also at the same time to control an obstinate vessel. The objections are manifest to a number of catgut knots in a wound where perfect antisepsis is impossible.

I believe it may be laid down as an axiom applicable to surgery in general that *even with the aid of antiseptics, the difficulty of obtaining union in a wound without suppuration increases geometrically with the length of time a foreign body is left unabsorbed in the wound.* I may not be expressing myself properly, but I mean, for instance, that when in a simple osteotomy, even though it be done antiseptically, a large splinter of bone be chipped off, and left *in situ*, suppuration is ten times more likely than if no such splinter had been made. Very probably it is the case that, even with carefully applied antiseptics, a few germs find their way alive into the wound, but their chance of surviving and multiplying depends mainly upon their finding or not finding some dead or half dead organic nidus to receive them. It is, therefore, particularly desirable to keep catgut out of wounds when complete antisepsis is not only difficult but often impossible.

As a prophylactic against tedious and troublesome hæmorrhage, the preference of scissors to the knife for the division of all structures except occasionally the skin itself, is to be strongly urged. With regard to the skin, in dividing it the precision attainable with a sharp scalpel recommends the latter.—*Annals of Surgery*, August, 1887.

Hysterical Coma and the Treatment of Hysteria.—Dr. Wallace A Briggs, of Sacramento, after recording an interesting case, concludes as follows: The treatment should be directed to (1)

[1] A handy way in which I think aseptic, as distinguished from antiseptic, water could be quickly produced, would be by adding iodide of potassium to sublimate lotion until all the mercury was precipitated, but I have never tried this plan.

the removal of all sources of eccentric irritation and of emotional disturbance; (2) the stimulation and building-up of the will and higher intellectual faculties; (3) the restoration of the general health and the improvement of the nutrition of the nerve tissues.

1. In children, in women, and perhaps no less in men also, especially in those of a nervous temperament, we constantly observe a notable increase of irritability of the nervous centres, in consequence of indigestion. This irritability finds expression quite as often in peevishness, in ill-temper, in cynicism, in hypochondriasis, in melancholia, and in pessimistic views in general, as in neuralgia, in perversions of sensibility, and in anomalous and uncontrollable muscular movements. When dependent on indigestion, this irritability is the product in part of reflex action resulting from local irritation of the gastro-intestinal tract, and, in part, probably in greater degree, of malnutrition of the nerve tissues, as well as of their poisoning by the products of decomposition.

Judging no less from experience than from anal ogy, I am convinced that the exciting, if not the predisposing, cause of hysterical outbreaks, emanates not infrequently from the digestive organs. Regulation of the digestive functions, then, is of the first importance, not only in the removal of eccentric irirritation, but also in the prevention of poisoning and the promotion of nutrition of the nerve tissues. Displacements and congestive and inflammatory conditions of either the uterus or the ovaries are occasional sources of peripheral irritation, and should be corrected. Emotional disturbance in ill-regulated nervous systems is often the immediate exciting cause of an hysterical attack, and, whether of sorrow, of chagrin, or of immoderate laughter, should be studiously avoided.

2. The psychical and nervous inco-ordinations of hysteria demand strict discipline of the intellect and will. The dominance of the will must be asserted until self-control becomes a habit. If spontaneous control is impossible, the will power may be effectually stimulated by the interrupted current. Its virtue consists chiefly in in its profound physical as well as moral impression. It should be rapidly raised to the *effective* strength, and be re-inforced by all the moral influences that circumstances suggest.

3. Morbid conditions associated with hysteria should receive appropriate treatment. Cachæmia, which in its various forms, seems not infrequently to sustain a causative relation to the finer organic lesions of the nervous system, demands particular attention. Iron, lime, soda and potash salts, especially in the form of phosphates or hypophosphites, strychnia, quinia, arsenic and cod-liver oil, judiciously alternated or combined, are our most trustworthy reconstructive tonics, but they must not be prescribed to the neglect of a proper dietary. Strict hygienic discipline should be maintained all along the line—intellectual, moral, physical.—*Sacramento Medical Times*, December, 1887.

CREOLIN VERSUS CARBOLIC ACID AS A DISINFECTANT AND ANTISEPTIC.—DR. E. VON ESMARCH, assistant in the Royal Hygienic Institute of Berlin, has made a series of experiments with creolin, a new disinfectant, which has been highly spoken of by Professor Fröhner, of the new Veterinary School of Berlin. Dr. von Esmarch made a number of comparative observations with carbolic acid on the disinfecting, deodorising and antiseptic properties of creolin. Amongst other observations, he noted the effects of the two substances on fluids containing cholera, typhus, and anthrax bacilli. As a rule, creolin appeared to be much the more active. Similarly the offensive smell of various putrefying liquids was controlled much more readily by creolin than by carbolic acid. Creolin soap, too, showed itself more active as a disinfectant than corrosive sublimate soap.—*Lancet*, October 15, 1887.

CONTINUOUS IRRIGATION WITH HOT WATER IN SEPSIS AFTER LAPAROTOMY.—DR. HAGGARD, of Nashville, reports a case in which, after partial removal of a fibroid tumor of the uterus, necrosis of the remainder and sepsis occurred, treated by continuous irrigation for a week with water at a temperature of 105°, and the free use of tonics. Recovery and cessation of all previous symptoms ensued. He adds the report of a case of laparotomy for cyst of the broad ligament, in which sepsis occurred, owing to the presence of necrotic tissue, whose removal was impossible in the exhausted condition of the patient.

Constant irrigation with hot water for twelve days resulted in maintaining the elimination of noxious material, and the patient recovered. In both cases the usual methods of drainage failed.—*Southern Practitioner*, November, 1887.

TREATMENT OF THE THIRD STAGE OF LABOR.—FREUND, of Strassburg, gives his conclusions regarding this subject as follows: In normal cases a judicious combination of the expectant and active method in treating the placenta and membranes is best. In removing the placenta the accoucheur should wait until the first signs of spontaneous expulsion appear. In cases where the placenta must be removed at once, Credé's method of expulsion is the best. Freund has observed, in normal cases, that the uterus rises toward the umbilicus when it expels the child. He imitates, with one or both hands, this action in securing the expulsion of the placenta by gently pushing the uterus upward, and compressing it at the same time.—*Deutsche medicinische Wochenschrift*, October 27, 1887.

NERVE SUTURE.—MR. CROFT reports in the *British Medical Journal*, of October 8, a case in which the tibial and femoral arteries and the posterior tibial nerve were cut, the nerve being severed. The ends of the nerve were retracted an inch and a half. They were carefully sutured with very fine silk, and the wound dressed antiseptically. In twenty-four hours sensation was established all over the foot, though modified in character on the sole. In five weeks the leg was entirely well, and the patient, a boy, had perfect use of and sensation in the foot and leg.

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MEDICAL LEGISLATION.

The season of the year is near at hand when a large number of the State legislative bodies will be in session for the making or revision of laws in their respective States; and it is probable that the usual number of bills will be introduced proposing to regulate either the education or practice of the profession, or the sanitary interests of the people, or all combined. During the last ten or twelve years there has been an increasing disposition shown by the Legislatures of many of our States to legislate on these important interests. This disposition has originated in part from a better appreciation of the value and necessity of sanitary measures for the removal of the causes of many preventable diseases by the people; and in part from the efforts of the profession to establish and enforce a higher standard of education for those proposing to practice medicine, as the best mode of checking the tendency to overcrowd the profession, and at the same time secure for the sick more skilful attendants. That these several objects are of sufficient general interest, and so directly affect the welfare of all classes of people, as to merit the careful attention of the legislative bodies, will be admitted by all enlightened citizens.

And yet the history of past legislation regarding them, from the first organization of our State legislative bodies to the present time, presents a diversity and instability of character hardly equalled in relation to any other public interest. While there is going on a free and frequent migration of physicians from one State to another, and large numbers of students annually graduating in the medical colleges in one State and locating for practice in other States, each State has its own laws relating to both medical education and practice, each differs in some respects from all the others. Yet it would be difficult to find among them all a single example of medical legislation founded on correct principles and sufficiently complete in the details to be efficient in securing for the people of the State a sufficient number of thoroughly educated medical men, and at the same time in protecting the sick from the depredations and impositions of ignorant and unprincipled impostors.

If these efforts to procure legislation for regulating medical education and practice in the several States are to continue, the first and most important object to be accomplished is the framing of a bill based on sound principles of political economy, brief and simple in its details, yet sufficiently comprehensive to establish and secure the practical enforcement of a fair standard of general education before the commencement of medical studies, and a reasonably thorough knowledge of all the recognized branches of medicine, including clinical and practical laboratory work, before receiving a license to practice, by an able committee, appointed by the American Medical Association. And if, after full consideration by that National representative organization of the whole profession, its provisions were approved by a practically unanimous vote, efficient measures should be taken to have its provisions urged upon the attention of every State Legislature whenever medical legislation is attempted, until such legislation in all the States becomes both efficient and practically harmonious. Some disposition to act in this direction has already been manifested in connection with the National medical organization. At the annual meeting of the American Medical Association in New Orleans, 1885, the subject of legislation for the regulation of medical education and practice was actively discussed in the Section of State Medicine in connection with the draft of a bill presented by Dr. John B. Roberts, of Philadelphia. A resolution was adopted by that Section, asking the Association to direct the Permanent Secretary to communicate a copy of said bill to each of the State Medical Societies and solicit their action thereon. The movement failed to elicit any general attention or approval by the State Societies, and two years later, at the annual meeting of the Association in Chicago, a discussion of the subject was resumed in the Section of State Medicine which resulted in the adoption of the following resolution, offered by Dr. P. H. Millard, of Stillwater, Minnesota:

"*Resolved*, That a committee of five be appointed by the Chairman of the Section, to frame a *bill* for

recommendation to the several States for regulating the practice of medicine."

In obedience to this resolution the Chairman of the Section, Dr. Geo. H. Rohé, of Baltimore, announced the committee as follows: Dr. P. H. Millard, Stillwater, Minnesota; Dr. H. A. Johnson, Chicago, Illinois; Dr. R. H. Plummer, San Francisco, California; Dr. C. W. Dulles, Philadelphia, Pennsylvania; Dr. C. B. Belt, Boston, Massachusetts.

The committee was well selected, and we trust that it will be able to report, at the coming meeting of the Association in Cincinnati, a bill or form of law much better adapted to accomplish the objects desired than any other heretofore proposed or adopted. The committee should be encouraged and aided, in its important work, by a candid discussion of the more important topics and interests involved, by the medical press.

THE ACTION OF DRUGS ON THE KIDNEY.

The action of drugs on the circulation and secretion of the kidney is a subject as interesting as it is comparatively little known. A brief and valuable contribution to the subject was made by DR. C. D. F. PHILLIPS, of London, to the Ninth International Medical Congress, and published in the *Lancet*, of November 12, 1887. The experiments were made on cats and dogs. The results arrived at may be summarized as follows:

The effects of caffeine citrate, in half-grain doses: The *blood-pressure* is first lowered, and is then raised, both effects being of short duration and slight, especially the rise of pressure. The *heart* showed first a diminution in the force of the beats, followed by a slowing, with beats of markedly increased force. On the *kidney* caffeine causes at first contraction, lasting two or three minutes, and accompanied by diminution or even arrest of secretion; this is followed by expansion, that lasts, after a one-grain dose, more than half an hour sometimes, the flow of urine being at the same time trebled. That the effects on the kidney cannot be due to the changes in the general blood-pressure, is shown by the fact that they do not occur simultaneously.

The effects on the general blood-pressure are slight, and last only a few seconds, the effects on the kidneys being measured by minutes.

Ulexine, the new alkaloid obtained from the seeds of the common gorse, acts in a similar way to caffeine. The objection to it is that its diuretic action is maintained only by doses that would either kill or produce violent convulsions. Like caffeine, it produces first a constriction and then an expansion of the renal vessels, with diuresis. It differs from caffeine: 1. In being more powerful. 2. Its effects are more transitory. 3. Repeated doses of caffeine injected rapidly cause only contraction of the kidney, not followed by expansion; a similar excess of ulexine causes expansion only, without contraction. Other substances that cause expansion of the kidney are dextrose, urea, acetate and chloride of sodium, and probably all constituents of the urine. More numerous are the drugs causing constriction of the kidney. Digitalin causes contraction in doses of $\frac{1}{10}$ gr., which persists for as much as half an hour. While it is difficult to say if digitalis is a true diuretic, or only exerts its effects through the heart, the urine is not diminished during the contraction of the kidney, as is the case with caffeine, but it is generally increased. The explanation probably lies in the effect on the general blood-pressure, digitalin raising and caffeine lowering it.

While spartein acts similarly to digitalin on the heart, general blood-pressure, and renal vessels, it causes a great diminution of urine; and its so-called diuretic effect, in disease, is due to improvement of the general circulation. The chief action of strophanthin and apocynëin is on the heart muscle, and they produce little or no effect on the peripheral vessels. Turpentine, adonidin and barium chloride produce marked renal contraction without diuresis.

From the above it is seen that "reputed diuretics more commonly produce contraction of the renal vessels than expansion. Further, that expansion is either slight, as by acetate of soda; or, if large, as by citrate of caffeine, it is only produced by small and initial doses. The powerful action of alexin on the respiratory mechanism is a great drawback to its use; one-sixth of a grain was used in our experiments, but one-twelfth of a grain would completely arrest respiration. Then, again, such drugs as produce contraction of the kidney cannot be bracketed together, since, though they all have the same effect on blood-pressure, digitalin alone has an obviously diuretic effect." The flow of urine is not so much dependent on blood-pressure as on the rate of the blood-flow in the renal vessels. "It is necessary also to remember that although such drugs as strophanthin produce a great increase in the force of the cardiac beats, yet the heart is very much slowed, so that it is possible that the amount of blood sent into such an organ as the kidney in a given time may remain the same; whereas, such a drug as digitalis, producing a rise of blood-pressure and a contraction of the kidney vessels, may cause an increased quantity

of blood to pass through those vessels, and thus it acts as a diuretic. Inasmuch as spartein has not a marked diuretic action, we must also assume that digitalin has some peripheral action on the secretory apparatus of the kidney." Dr. Phillips concludes his paper by calling attention to the value of the plethysmographic method of experimentation in regard to the action of drugs on the circulation.

A NEW DANGER FROM OLD RAGS.—A writer in the *Lancet* calls attention to an unsuspected danger from old rags, cloth, and rubbish. A lady, the head of a school, found a miscellaneous mass of such stuff in a number of bolsters and pillows that had been in use in the school. It seems that the practice of stuffing bedding with such material is very common. It is possible that this may account for some of the mysterious outbreaks of infectious diseases in schools and families.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, October 17, 1887.

THE PRESIDENT, W. T. BELFIELD, M.D., IN THE CHAIR.

DR. E. FLETCHER INGALS reported a case of

RETROPHARYNGEAL ABSCESS.

The following is one of unusual interest on account of the deep fistulous tract which remains, and as an illustration of the necessity for prompt incision for the evacuation of pus in cases of retropharyngeal abscess.

Mrs. H. P., æt. 44, was sent to me during the month of August from a neighboring State for an opinion. She complained of an oppressive, purulent discharge from the pharynx, with more or less pain between the shoulders, cough and night sweats. She stated that the discharge would occur every few days, and that afterwards she would be free from cough, pain or other annoyance for some time, when the symptoms would again come on gradually and increase steadily until another evacuation of the pus occurred.

Six months before coming to see me she had been attacked by soreness and swelling in the naso-pharynx. The swelling had gradually extended downward, causing more or less difficulty in swallowing and respiration, and had been allowed to take its course for two months, when an opening was made in the lower part of the pharynx which gave vent to a large quantity of offensive pus. Subsequently the incision closed, was reopened twice, and finally it had remained patent. While the swelling was still in the naso-pharynx she had for some time also a purulent discharge from the right ear. I found the patient anæmic, weak and emaciated, weight only 94 pounds, instead of 112 pounds when in health. Pulse 132. Tongue red and glazed in centre, but the appetite good. The cough was not constant, but it usually troubled her considerably every day. The pains of which she complained were not severe and were confined to the chest and shoulders.

Upon examining the chest I found no abnormal signs excepting slight feebleness of the respiratory sounds over the lower third of the right lung. A mucus polyp half-closed the right naris; larynx normal. When the tongue was forcibly depressed I could see, a little to the right of the median line, at the lower third of the larynx, a small red fungoid mass, about the size of a pea. The vault of the pharynx was normal, and nothing else of an abnormal character could be seen. I removed the fungoid mass with a snare, and beneath it found an opening about two millimetres in diameter, into which I passed a small elastic catheter, which I gently pushed down the fistulous tract thirty centimetres, when she complained of its extremity causing her pain a little to the right of, and below the right breast.

The position of the lower end of the fistula seemed in some way to account for the enfeebled respiration at the lower third of the right lung. The patient did not wish to remain in the city, I therefore was unable to see her when there was pus in the cavity, and consequently could not determine the exact position of the lower end of the fistula.

I recommended removal of the polypus and washing of the fistulous tract daily with carbolized water or peroxide of hydrogen through the catheter introduced to its bottom. Tonics were also suggested. The result of the examination was communicated to her physician, but I have heard nothing further of the case. I was under the impression that when the lower part of the sac was filled with pus it might be possible to detect it and make a counter opening through the pleural sac, whereby constant drainage could be established so that healing of the fistula might be effected.

DR. F. O. STOCKTON said: It seems to me that this sequel of a retropharyngeal abscess is something a little out of the ordinary run. I must say that in my experience I have never met with anything that has produced any such symptoms, although I have frequently met with fistulas resulting from a retropharyngeal abscess. The case is interesting as showing what may occur when an abscess of this kind is not recognized in time. Abscesses are liable to burrow deeply, and in a location like this where the soft tissues overlie a hard, bony substance, an abscess with a tendency to burrow could easily go very deep and by pressing upon the nerves produce these pains, but it seems strange, unless the nerves were bare, that passing a small catheter down should produce these pains below the right breast. It looks as though some of the spinal nerves might have been laid bare by this burrowing of the pus. In a case of that kind I think what the doctor suggested was about the only thing that could be done, although I

can hardly see how the opening he suggested could be made so as to give thorough drainage without injury to some nerve or other important structure.

DR. W. E. CASSELBERRY said that the subject is one of interest for two reasons; *first*, retropharyngeal abscess is not a common disease, especially in the adult. It is oftentimes overlooked, and the responsibility rests upon the physician in all cases where there is dyspnœa, continuous or paroxysmal, to make a thorough examination of the throat both by inspection and palpation, in order to determine the diagnosis. *Secondly*, it is of interest on account of the peculiar complication in this case. I have seen the record of a similar case reported by Cohen among a number of cases of retropharyngeal abscess having some peculiarities. In this one a sinus burrowed deeply between the œsophagus and trachea and finally pointed externally low down in the neck, and pus was evacuated by incision. On account of the loose connective tissue in this region and the influence of gravity, the natural tendency is for the pus to burrow downward and other cases of the sort will doubtless be observed.

In reply to Dr. Strong as to how he would make the opening suggested, Dr. Ingals said: I thought that when that sinus was filled with pus there might be a considerable collection, a pocket perhaps of a couple of inches in diameter, and if it was of that size I could find the location and when found, I believed I could get into it. I should not hesitate to plunge an aspirator needle into it, even passing it through the lung if necessary. I am reminded of a case in an infant that I saw so many years ago that I am not ashamed to tell of it—I then thought the child died of convulsions, but I think now that it died of retropharyngeal abscess. I know from reading of these cases that in young children sudden stopping of the breath occurs that seems as if from closure of the glottis, but there is none of the sound that occurs with spasm of the vocal cords. Last week I had a man of perhaps 50 years of age sent to me; the word that came with him was that he had stenosis of the larynx and that something must be done. I took my laryngeal mirror to examine his larynx and found a large swelling in the pharynx which I could see by depressing the tongue. It was a retropharyngeal abscess which had existed four weeks. He swallowed with difficulty, but opening of the abscess relieved the dysphagia.

DR. A. B. STRONG read a paper on

SUBPERIOSTEAL RESECTION OF A RIB FOR EMPYEMA IN CHILDREN; RECOVERY.

(See page 779.)

DR. E. FLETCHER INGALS: Some four years ago I reported fourteen cases of empyema I had treated, and since that time I have treated a number of others. I have had no experience with the method adopted by the reader of the paper, but one of my patients unfortunately had the operation done upon him. I have not very much sympathy with the operation excepting as a last resort to allow of greater contraction of the chest. The author of the paper performed the operation skillfully and his patients recovered; I fear if I had performed it my patient would have died. But I can open the chest otherwise with safety to the patient and satisfaction to myself. I have treated several cases of empyema similar to those just reported, one very young child, perhaps a year and a half old, where recovery followed simple aspiration. I recall two others which were similar to the first case reported, in which the disease had run from three to five weeks. Drainage tubes were inserted through a trocar, and the cavity washed out frequently, and in both the drainage tubes were required only between one and two weeks, and the patients were well within three weeks. I think they recovered more speedily than they would have done if the rib had been resected. Another case I have in mind had been sick longer, two or three months, when I first saw it, and it was perhaps six weeks before the child recovered. In all of these cases the expansion of the lungs and chest wall became perfect.

I think children are quite as likely to recover by this method as when ribs are resected, and I think we avoid a great danger. I feel confident that I have seen cases die from free opening in the chest cavity, and I do not think it a wise practice to open the pleural sac in this manner. However, I have seen two cases die within a few hours after simple aspiration, but I do not know whether the removal of the pus was the cause of death or not. One was a child who had been suffering from scarlatina and was so nearly dead that she did not feel the puncture of the needle, and the other was an aged man. In the case reported of the boy 17 years of age, I think drainage tubes would have acted quite as well introduced through a trocar, though not quite as large tubes could have been introduced, but I do not think such a large tube necessary. With two drainage tubes one-eighth of an inch in their inside diameter I think there is no difficulty in washing out the chest and doing it thoroughly.

One point spoken of in the paper I am glad came up, as it brings to mind something important in the operation; that is do not operate too low. In this case the 9th rib was resected; if it had been the 6th or 7th rib there would not have occurred the trouble which was experienced afterwards. I have had the same trouble through the introduction of drainage tubes too low. One patient in whom the tube was introduced in the 7th or 8th interspace near the angle of the rib wore it several months, but finally died of pneumonia of the opposite lung, and on examination I found the drainage tube for two inches in its course upward bound to the chest wall by the diaphragm which had crowded upward. My rule is to make the opening within an inch and a half of the surface of the fluid when the pleural sac is about half full; if the cavity was filled I should go between the 6th and 7th ribs, or the 7th and 8th near the angle. The method that I have used in introducing drainage tubes would perhaps be of some interest. At present I use a broad flat trocar that is wide enough to allow the introduction of two of these tubes at once, that is two tubes with an inside diameter of one-eighth inch. First making a very

small opening in the skin with a scalpel, the trocar is then plunged in the cavity, and as the stilet is withdrawn, I place my thumb over the canula to stop the flow of pus; the tubes that have been prepared before hand, are then slipped rapidly through the canula to the required depth, and the canula is at once withdrawn. No air will have entered the chest and not more than two ounces of pus will have escaped. To make the tubes I take a piece of two feet in length, cut it half way across near the middle, fold it on itself and stitch the two sides together so that the tubes can be spread apart in the chest. In one of these tubes I make openings for about four inches, in the other one or two openings close to its extremity. The outer ends of the tubes are tied tightly so that the pus will not flow till I am ready to fasten the tubes in. I cut off two half-inch sections from the same tubing and pass through each two bits of string, the ends of which are tied in loops; these are carried over the drainage tubes down to the surface of the chest, long strips of adhesive plaster are then passed through the loop and fastened to the chest when the tubes will be firmly fixed. I then carry a rolled bandage around the chest over the strips and the dressing is complete. If the patient is in good condition, I then attach to each drainage tube by means of a bit of glass tubing longer sections of tubing which have been filled with water, that can reach to the bottom of a basin of water sitting on the floor; the strings which have fastened the ends of the drainage tube are then cut and the pus allowed to escape, or such part of it as is deemed advisable. I recall one case in which I am satisfied if I had allowed any quantity of pus to escape at first it would have been fatal. On one or two occasions I did allow more to escape than was desirable and I had to inject water into the chest to replace it.

The after-treatment that I have employed consists mainly in washing out the chest twice a day with a solution of carbolic acid 2 per cent. at 100° F. With tubes placed in this way the patient's friends can perform this office, and the physician will not be obliged to see the patient but a few times, once a week or once in two or three days, according to the intelligence of the attendants. I think, however, that in adults where the lung expands with more difficulty, one should be very careful to watch the case about the fifth or sixth week to insure final closure of the cavity. I have seen cases in which at this time I think the closing up of the cavity ceased from lack of proper stimulation. It is very easy to measure the size of the cavity by filling it up with water and measuring the water as it flows out. At first the cavity will rapidly diminish in size, but after two or three weeks it closes more slowly, and after the fifth or sixth week the healing will cease in some cases. At this time I have used satisfactorily washes of solution of the sulphate of zinc or copper; I like best the sulphate of zinc. In two cases of adults where I could not watch them closely at this time, I have had some difficulty later on in closing the cavity. I stated in the beginning that I had personal experience in only one case in which resection of the rib had been done. The patient had been sick about two years when I first saw him. I introduced the two drainage tubes as described and the cavity closed until it would only hold about an ounce; but there seemed no way to get this cavity to heal, however, the gentleman was satisfied and went about his business, until finally he fell and broke his arm and went into the hospital. While there it was concluded to resect one of the ribs so as to allow the cavity to close entirely. In resecting the rib an artery was cut, and the surgeon had great difficulty in stopping the hæmorrhage. The resection did no good though larger drainage tubes were introduced; they did not cleanse the cavity better than the smaller ones, and the man still wears them. From my experience I believe that where two tubes are introduced as I have directed, and washing is carried out through first one and then the other, there is no difficulty in cleansing the cavity perfectly, unless gangrene has occurred. Flakes of lymph will be readily washed out, or if too large they will be disinfected so as to remain harmless until they finally break down or become organized with the new tissue that binds the two pleural surfaces firmly together.

Dr. John D. Skeer: I have not had much experience in exsection of the ribs for drainage purposes, but as far as the operation is concerned it is certainly not a very formidable one when performed as Dr. Strong has described it, by making the operation subperiosteal. I have had a great deal of trouble, in my practice, in the drainage of chest cavities with small drainage-tubes. I recall a number of cases in the army, and I think now that if I had those cases under my care I would exsect a portion of the rib. The rapid flow of matter under these circumstances does not necessarily follow. The opening into the cavity may be small or large, according to the size of the drainage-tubes, and the flow of matter can be moderated according to the requirements of each individual case. The importance of this grows out of the fact that the lung becomes bound down by bands and adhesions which prevent its rapid expansion, and there may possibly be ulcerated spots admitting air into the pleural cavity, and pus into the lung tissues, from a too ready expansion of the lung, and it takes time for these bands and adhesions to soften down, relax and expand to accommodate the lung in its natural expansion. We should differentiate between *serous effusion* into the pleural cavity and suppurative inflammation of the pleura.

Dr. H. T. Patrick: My experience with this operation of resection is limited to one case, which I had under observation three years ago. It was not a case of simple empyema, but a pneumo-pyothorax of a boy ten years of age, of over a year's standing, with considerable retraction of the chest, and a small external opening. Three ribs were resected, the 6th, 7th and 8th. The ribs were markedly overlapping one another, and for that reason more were removed. The boy made a very satisfactory and rapid recovery; he had considerable temperature and was much emaciated, but immedi-

ately after the operation, the chest being washed out once a day, he lost his temperature and at once began to flesh up, and in a few weeks was entirely well. In regard to the operation, my idea is that it should be limited to this class of cases. I should say that in empyema aspiration, incision and drainage, and resection of the rib, should be the order of procedure. In Dr. Strong's second case the lung failing to expand well points out one of the weak points of the operation as a primary procedure. Had aspiration been performed first I think the conditions would have been more favorable for expansion than by making as free an opening as for resection and allowing air to enter the cavity. I think we follow right in the line of Nature's efforts in these cases of retraction of the chest wall; we allow the chest to fall in and approximate itself to the other surface. There are other dangers connected with this operation as a primary procedure; one is that there are cases on record where, under an anæsthetic, the cavity has ruptured into a bronchus, and the patient has choked to death. Deaths have also been recorded from simply washing out the cavity.

DR. N. H. PIERCE: There is one thing that I would like to suggest in this connection, and it is this: As I understand it, we resect a rib to simply enlarge our area of drainage. In a case that I had in the last month where I had drawn off nearly three gallons of fluid in three *tempos*, I first merely inserted a drainage-tube one-half inch in diameter; this drain was constantly being plugged up by coagula, or whatever it might have been, thus causing retention and absorption of the purulent matter, followed by the usual symptoms. I resected a rib after that and introduced a drainage-tube one inch in diameter, with the advantage of not having it clogged up again; the patient is making a good recovery. Another point is, that there have been a number of cases reported from the Berlin clinic, of death from drowning occurring from washing out the cavity while the patient was under ether, there being a communication between the pleural cavity and the lungs. It is well, therefore, that the primary cleansing be delayed until the day following the operation. I have, in three cases of this character, let out the entire contents of the cavity, amounting in each case to three or four pints, with no abnormal result. Using as an antiseptic lavage a saturated solution of boracic acid. There have been deaths reported from the use in the pleural cavity of carbolic acid, thymol and salycilic acid, and the only agent that has not been proven more or less dangerous when used in the pleural cavity is boracic acid, and Dr. Fraenkle insists that this is the only thing that should be used in this capacity.

DR. A. B. STRONG was very glad to find that his article had excited so much interest. It is certainly a practical subject, and one we are likely to meet with any day, and I am yet in favor of resection. It is my impression that the first resection was made about fifteen years ago. A point against resection was raised by Dr. Ingals—that of the too rapid evacuation of the matter. That point was ably answered by Dr. Skeer, who said that when we have free evacuation we have a corresponding influx of air which takes the place of pus. I believe that to be so. In the two cases reported there was considerable cough at the time the chest was opened, but that quickly subsided. I had no fear that there would be rupture of the lung; I could feel the pleura three-fourths of an inch thick. Until some better reasons are given for not operating, I shall certainly be in favor of making a free opening by resection. I want to make an opening large enough so that I can get into the cavity and evacuate it freely; I cannot get out enough pus through an eighth of an inch opening to satisfy me. In the case of the older boy, shreds of lymph as large as the little finger were thrown out for several days. I have no fear in opening the chest freely and draining it freely.

(*To be concluded.*)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, October 6, 1887.

THE PRESIDENT, THOMAS M. DRYSDALE, M.D., IN THE CHAIR.

(*Concluded from page 761.*)

DR. H. A. Kelly read a paper on

PALPATION AND SOUNDING OF THE FEMALE URETERS,

in which he stated that he made it his routine practice to examine all gynecological cases with reference to the condition of the ureters. Since Dr. Sänger had demonstrated to him in the summer of 1886 the facility with which both ureters could be outlined through the anterior vaginal wall and traced back to the posterior pelvic wall, the speaker had made a long series of confirmatory observations and in some instances demonstrated the value of such observation by finding disease of the ureter. Dr. Kelly had added to this a method of his own by which the ureter is picked up and handled bimanually, and with the exact knowledge thus gained as to its position, he then proceeds to catheterize it with Pawlik's catheter. He detailed a case in which the catheter was thus introduced into the ureter and passed back to the post-pelvic wall. The urine escaped in little gushes of from 10 to 15 drops every ten or fifteen seconds, evidently accumulating beyond the catheter until the pressure became sufficient to dilate the ureter and let the urine pass down into the eye of the instrument. About 3 drachms of urine were drawn in this way, and on removing the catheter, about 5 ounces of urine were drawn from the bladder. A disadvantage of Pawlik's catheter is that the sharp eye sometimes catches and tears the mucous membrane of the ureter.

Dr. Kelly showed some sounds which he had constructed some time since when studying this subject, but considered them inferior to Pawlik's instrument. The value of knowledge which may be thus gained was illustrated by reference to a recent case of severe operation, removing adherent, pus-containing ovaries and tubes. On the second day urine appeared in the

tube and flowed freely. The only way of determining from which kidney this flow came is by catheterization of the ureter.

Dr. Chas. M. Wilson thought that such an instrument, used in cases with a history of pyelitis, might be the cause of serious trouble. He has tried in a number of cases to palpate the ureters by Dr. Kelly's method; in a few elderly women he has succeeded, but in nulliparæ with firm tissues he could not distinguish the ureters.

Dr. J. Price considered these methods of examining the ureters of but little practical use, for trouble does not exist in the ureters alone, but in all the pelvic organs and kidneys, and when these are distorted by new growths and inflammatory products it would be very difficult to locate the ureters. The case cited by Dr. Kelly in his own experience shows how difficult it is, even with the fingers in the pelvis while removing uterine appendages, to locate the ureters through one layer of peritoneum, to say nothing of the conditions when we have to deal with inflamed and thickened vaginal walls.

Dr. Montgomery thought it would require extreme skill to pass such fine instruments without doing injury to the mucous membrane. Dr. Bozeman, in a paper read before the Ninth International Medical Congress, recommended dilatation of the ureters and washing out of the pelves of the kidneys and ureters in pyelitis; even advising splitting of the bladder through the vagina in order to reach the orifices of the ureters.

Dr. Walker was very much interested in this subject and has been desirous of accomplishing this procedure in some patients that he had in his care in the Philadelphia Hospital. He had succeeded in palpating the ureters in males, but not in females. This ability to pass a catheter into the ureter will enable the surgeon to determine in any given case which kidney is diseased.

Dr. Kelly offered his services in sounding ureters to any member of the Society interested in following up the subject. As for danger, there is none. The instrument must be lightly poised between thumb and fore-finger and gently passed in, or not at all. The sensation when the end of the catheter is caught by the ureter and it begins to pass up the tube is characteristic. Dr. Walker is certainly correct in his high estimate of the great value of the possibility of sounding the ureters free hand in certain puzzling renal cases. As to Dr. Price's remark, cases in which there is much pelvic cellulitis are not those in which we desire to sound the ureters. Ureteritis is a distinct, well-defined disease. He treated one case which he cured by opening the base of the bladder. The whole trouble lay in the extremities of the ureters. The first to suggest splitting the vesico-vaginal septum and rolling the ureteral orifices, and thus under guidance of the eye catheterizing them, was Dr. Emmet. Pawlik's work was but the culmination of a vast number of attempts to accomplish this, from Tuchmann, who attempted to clamp the orifices of the ureters, and Selbermann, who tried to choke them by a bag of quicksilver, and Simon's dilatation of the urethra, and Noumann and Grüenfeld, who tried to reach it by endoscopic methods. Sänger showed how readily the ureters can be palpated, and I think by combining a careful bimanual palpation according to my own method and following this with a free-hand catheterization of the ureters already so distinctly located, I have added a method of real value, simplifying this difficult subject. It is not true that great skill is required to thus palpate the ureters. I can teach any one to do it.

Dr. Hirst reported a case of

TYPHOID FEVER IN A PREGNANT WOMAN.

The impression still prevails in some quarters among general practitioners that typhoid fever will not attack a pregnant woman; an idea originating, doubtless, in the teaching of the famous Rokitansky, who believed that the condition of pregnancy granted a woman immunity from this disease. It is unnecessary, of course, to point out the fallacy of this opinion or to refer to the statistics of 322 cases of typhoid fever during pregnancy collected by Charpentier. The case that I would report occurred in a young prima gravida who was admitted to the Philadelphia Hospital in the second week of the attack. The disease presented all the characteristic symptoms in a typical manner, leaving no doubt as to the diagnosis. On the tenth day after her admission to the hospital the woman gave birth to a child which corresponded in its development to the seventh month of intra-uterine life. The infant died two weeks after birth but, unfortunately, the cause of death was not ascertained. An interesting feature in this case was the effect of labor upon the temperature. As uterine contractions began the woman's temperature was 104.2°, but it steadily lessened as labor advanced, until directly after the expulsion of the child it was only 95°. Under the influence of external heat and stimulants hypodermatically, the patient reacted and made a good recovery.

Dr. Longaker remarked that Dr. Hirst deserved credit for bringing this subject forward. We are perhaps too much in the habit of regarding with suspicion cases of typhoid fever in the puerperal state. His experience had taught him that high temperature in typhoid fever in the pregnant woman was incompatible with fœtal life. He had been recently associated with such a case which ended fatally.

Dr. Chas. M. Wilson had under his care a pregnant woman with typhoid fever in whom the temperature rose as high as 106+° and was not reducible for several hours, but the child survived and was delivered alive at term. Numerous similar cases are on record, so a temperature as high as 106 + is not necessarily fatal to fœtal life.

Dr. Montgomery remarked that in the majority of cases maternal typhoid fever is fatal to fœtal life. Premature labor has occurred in all such cases that have come under his notice. In one such case the temperature rose to 105° and miscarriage occurred, and was followed by a fall of temperature to 97°, with collapse from which it was very difficult to restore her. The temperature again rose to 105°, and after a protracted illness the patient recovered.

Dr. W. S. Stewart remarked that in one case of

typhoid fever, about the sixth month of pregnancy, in which the patient became emaciated to a remarkable degree, she recovered and was delivered of a living child at term. The temperature did not rise very high.

DR. J. C. DACOSTA stated that these cases do not all abort or die. He recalled one case in particular with a temperature of 105.5°, with characteristic typhoid eruption and intestinal hæmorrhage, four stools containing each from one to two pints of blood having been passed, which went on to full term, twins being delivered alive.

DR. HIRST, in closing, stated that although the temperature of his patient remained at 95° for over twelve hours despite all that could be done to raise it, she did not appear in collapse, but looked and felt quite comfortable. The prevalent idea as to the danger to the fœtus of high temperature in the mother would appear to be erroneous. Runge's well-known experiments are often quoted to support the view that the fœtus is in danger if the mother's temperature reaches 104°; but Doléris in 1883 showed that if the maternal temperature is gradually and not quickly raised the fœtus remains unaffected. Runge, in a second set of experiments, found that Doléris' conclusions were correct. Preyer on one occasion actually found a temperature of 111° in the anus of a living fœtus.

DR. PARISH considered that the high temperature in disease was accompanied by blood changes which contributed to the fatal result.

DR. J. M BALDY read a paper on the administration of

SALINES IN PERITONITIS FOLLOWING ABDOMINAL SECTION.

Twenty-five per cent. of the deaths following abdominal section are attributable to peritonitis (Agnew). Taking the hint from Mr. Tait, I never take any steps to prevent a movement of the bowels after operation, and routinely administer salines on the second or third day, repeated in small doses, especially when there is distension and persistent bilious vomiting. The results following this course have been most satisfactory. I have used salines in large concentrated doses, ℥j, repeated several times and aided by large, 2 quarts, turpentine enemata in fully developed peritonitis, with the best results. The symptoms begin to subside almost immediately when the bowels commence to discharge watery stools. The treatment is in every way preferable to the use of opium, and is logically infinitely better than the narcotic. Opium only does good by relieving pain, at times, in enormous doses. The bowels are already "in splints" from the disease and do not need the aid of the drug for that purpose. Opium, however, does a world of harm. It helps keep the bowels in splints and so favors the formation of those great masses of adherent intestine and organized bands which we find so often the cause of subsequent intestinal obstruction. Still worse, it closes all the avenues of escape for the poisonous products of inflammation found in this great lymph sac, and in this manner keeps up the inflammation much more surely than the rubbing together of the peritoneal surfaces will. With salines, however, an active peristaltic movement is kept up which tends to prevent the formation of adhesions and bands. They drain the abdominal cavity of the products of inflammation, and by depleting the blood-vessels of the intestines and peritoneum tend to prevent the throwing out and organizing of lymph to any great extent. There are, of course, dangers in the production of large watery stools, but the treatment must be used with care and judgment. I would suggest that in the after-treatment of abdominal section the bowels be moved as a matter of routine on the second or third day after operation. That on the first access of pain and soreness with distension, a brisk purgative be given at once. In case a general peritonitis is developed, the production of large watery stools should be secured as quickly as possible, by purgation and stimulant enemata; the amount of purgation to be controlled in accordance with the strength of the patient. The salines as suggested originally by Mr. Tait are perhaps the best of the purgatives for the purpose.

DR. WATSON remarked that Mr. Tait had been led to the use of salines because he had always observed bloody serum in the peritoneal cavity after death from peritonitis. Dr. Watson has been in the habit of using saline laxatives whenever he has found signs of beginning peritonitis after labor. Once after craniotomy, and again after a very difficult labor he found their use of very decided benefit in cutting short threatened attacks of peritonitis; both cases had good recoveries.

DR. LONGAKER remarked that Dr. Bantock, while in this country recently, had expressed entire want of faith in any benefit to be gained from the use of salines in peritonitis.

DR. PARISH explained that peritonitis as seen by Dr. Bantock was always of septic origin, and the patients would die under any treatment. That form of peritonitis is preventable. The saline treatment is quite reasonable; it is an adaptation of an old method of treating dysentery and inflammatory diseases of the intestines.

DR. WALKER had employed salines as depleting agents in various inflammatory diseases. When the depletory action is desired, concentrated solutions should be administered. A weak solution will act simply as a laxative.

DR. CLEEMANN had had success and failure with both the opium and saline methods of treating peritonitis. Salines had been recommended years ago by Dr. Meigs in the treatment of peritonitis. Several successive attacks of typhlitis in one patient had been subdued under the use of opium. A case of peritonitis under his care had shown progressive relief after every movement of the bowels, the result of a dose of castor oil. As the opium treatment has been adopted by the majority of physicians, it is presumably the best.

DR. KELLY cordially endorsed the general tone of the paper, and believed that serious consequences will often be averted by a timely free depletory purgation. He had used calomel and soda, but now

considered salines better. All peritonitis is not, however, as the speaker would urge, to be so treated There is a dry form, which I have verified by post-mortem examination, which corresponds to the friction dry stage of pleurisy, which is better treated by opium. We must bear in mind that the depletion of the intestinal villi only quickens the absorptive activity of the peritoneum, and a large accumulation within the peritoneum may readily be too great to be thus disposed of. Here the drainage-tube saves lives by disposing of the excessive and often unavoidable serous weeping from wounded peritoneal surfaces. I call this my *fifth emunctory*, and it is better than all the natural emunctories in these cases, when properly handled, disposing of accumulations at once, without in the least taxing the powers of the patient. Next to the drainage-tube the best emunctory is that nearest the field of activity, the intestinal tract, and next, but much inferior to this, come the kidneys, then the skin, and lastly the lungs.

Dr. Montgomery resorts to closely restricted food and drink and the administration of concentrated doses of salines in commencing or threatened peritonitis. He adopted this method at the Med. Chir. Hospital recently in a case of peritonitis consequent on the presence of a malignant tumor which could not be removed. He did not use a drainage-tube, but kept the patient on restricted diet and drink, applied a light bandage and administered salines.

Dr. J. Price thought the preparatory treatment of paramount importance in abdominal surgery. After an operation opium is simply harmful, while salines are soothing to the patient and prevent flatulent distension. Upon the slightest indication of peritonitis, use them freely, and it is simply wonderful what rapid disposition is made of the thirty-seven varieties, according to Sternberg, of rhizopods and boa-constrictors. Again, the drainage-tube is of the greatest importance in preventing peritonitis. It usually does its work, if managed well, in the first twelve or twenty-four hours.

Dr. Baldy does not think there is such a thing as dry peritonitis. The idea of administering salines is to deplete, and concentrated solutions should be used. The use of opium by the majority does not prove it to be correct.

ST. LOUIS MEDICAL SOCIETY.

Stated Meeting October 1, 1887.

The President, S. Pollak, M.D., in the Chair.

Dr. W. B. Dorsett presented the specimens of a case of

CANCER OF THE UTERUS.

M. N., æt. 63, German, widow, mother of five children. Admitted to Female Hospital, August 8, 1887, suffering with "general debility," or, as she expressed it, "weakness." About a week after admission she called my attention to a swelling in the right groin. Upon examination it was found to be about the size of a walnut, firmly fixed, indurated at its margins, with a small spot in the center which slightly fluctuated. Pressure, although firmly produced, caused no pain. The presence of this tumor (an indurated gland) led me to make a careful examination. All of the external organs of generation were found to be perfectly normal. Upon passing my index finger into the vagina, I found it to be only 1½ inches in depth. The anterior and right lateral wall hard and unyielding, cervix uteri hard, uterus firmly fixed. Bimanual palpation did not reveal the position of uterus, so firmly was it bound down in the pelvis. A round tumor similar in size and shape to the gland in the right groin could be felt immediately above the pubes. It was so firmly fixed that it could not be moved in any direction. A very offensive discharge tinged with blood was issuing from the vagina, a discharge characteristic of cancer of the uterus. The examination caused the patient no pain, and upon interrogating her closely, she said she never suffered any pain in that region, and in fact did not know that anything was the matter, except that she was very weak. There was this offensive discharge, not very copious, no pain, and no hæmorrhage at any time. Her appetite was remarkably good from the time of her admission to the time of her death, 52 days. The treatment consisted in nourishing diet, tonics, and, as she was habitually constipated, laxatives. As she always slept well, and never complained of pain, no sedatives or hypnotics of any kind were given. She grew weaker daily, and died September 29, of exhaustion.

Post-mortem examination made by Dr. F. D. Mooney about twelve hours after death. Body much emaciated, somewhat pale in color, but not distinctly of characteristic cancerous hue. Uterus bound down in pelvis firmly, and was only removed from pelvic cavity with difficulty; and when taken out, the uterus, bladder, vagina, and right ureter and kidney, present this appearance: On the posterior wall of bladder is seen a hard tumor, about the size of a walnut, breaking down in center, and is the tumor I felt in making the digital examination. Anterior and right lateral vaginal wall hard and thickened, cervix uteri hard and nodulated. Right broad ligament much thickened, nodulated and slightly friable. Right ovary in the same condition, adhesions very firm between the cancerous (?) mass and right pelvic wall. The fundus and anterior aspect of uterus free from pathological changes, posterior aspect of body infiltrated and firmly adherent to cancerous mass. The right ureter was found passing down behind the tumor and dilated above the tumor to four or five times its natural size. Pelvis of kidney in same condition as to dilatation. The most interesting feature in this case was the total absence of pain. Lawson Tait, in his work on "Diseases of Women," page 59, states that: "This disease is at once the most painful of all the manifold afflictions from which humanity suffers, and the most terrible because nothing can be done for cure, and even our palliative measures are insufficient." And Thomas, in his work in enumerating the varied "symptoms of cancer," heads the list with *pain;*

next comes metrorrhagia: in short, all writers I have consulted on this subject agree that pain and hæmorrhage are the chief characteristic symptoms of this disease.

In this case they were entirely absent, still the characteristic odor of the discharge was present, and from the odor of the discharge and from the pathological condition (not microscopical) found in the post-mortem, I am of the opinion the condition is cancerous.

DR. HULBERT: It was certainly very remarkable that she did not suffer any pain. Examination of the tumor shows that the uterus is hardly affected by it, and as to the adhesions existing, I should judge that they had been due to pelvic peritonitis. It may be possible that the absence of pain is because it was entirely developed in the broad ligament. The cancer coming out so gradually in the loose connective tissues, it made its way without involving any of the nerves, and so the pain would not occur. I have been astonished at the amount of degeneration that has occurred from cancer, and the slight amount of pain the patients suffered. In two cases I saw the uterus was to a like extent involved.

DR. LUTZ: In cancer of the bladder ordinarily there is such excruciating pain that it is unlike any other troubles. One case I remember, a woman 65 years old, suffered in that way; the symptoms were a constant desire to micturate. I examined her under an anæsthetic, dilating her urethra and introducing my finger, and found the entire posterior wall of the bladder covered by a growth which bled very freely on being touched. The neighborhood of the entrance of the uterus was also involved; the rectum and uterus not involved. The absence of pain in this case is striking. In many forms of malignant growth pain is not a prominent symptom. I imagine that epitheliomata are least painful of new growths. I have a specimen of a man whose entire face and eye and a portion of the base of the skull and brain were substituted by epitheliomatous growth, but in a year that I treated him, he never took a grain of morphine.

DR. A. H. OHMANN-DUMESNIL presented a case of

LUPUS ERYTHEMATOSUS OF THE HAND AND ARM.

It is the forty-fifth case on record. In Germany, lupus erythematosus of the face is often seen, but the involvement of the hand and arm is comparatively rare, and in this country this makes about seventeen cases. This boy is in his sixth year. He came to me a little over a year ago; I recommended the application of lactic acid, and, subsequently, pyrogallic acid and soft soap, and it acted well for six months. At first he had all the fingers involved, and the back of the arm. At present it has a healthy appearance, which is due to the application of camphophenique and olive oil. Commencing in the sweat glands, it extends to the upper layers of the skin. It has a general erythematous character, but has nothing to do with lupus. It is sometimes accompanied by pain; at present there is no pain. When it first came it was covered with yellowish crusts, which consisted of coagulated blood. When it heals it leaves a thin flexible scar, and there are little points, the remains of the glands. Recent investigations have shown that it is due to a micrococcus. It does not attack the papillary layer at all; that accounts for the thin skin. Out of forty-five cases the forearm was involved in only one case. The average duration is six and one-half years. The section which I have under the microscope is made from an old preparation, which is a superficial part.

DR. F. R. FRY exhibited a patient showing

THE RESULT OF AN EXCISION OF THE WRIST-JOINT.

I first saw the patient in January; his wrist was then swollen and painful. The physician who preceded me used vesicants, so that the appearance of the skin was deceiving. I soon felt that there was suppuration and lanced it and found a free opening into the joint, made a counter-opening, satisfied myself that there was dead bone. Later, I made a still freer incision and scraped out the dead bone, put it in plaster. The process continued and I had Dr. Hodgen see the patient with me. He agreed with me that excision was the thing to do and did the operation.

DR. HODGEN: The operation was the ordinary one, through a single opening on the dorsal aspect, radial side, with this exception that it was only partial. It is advised in these cases to make a complete excision; in this case I removed all of the first row and part of the trapezium, and also about 1½ inches of the ulna and radius. At the close of operation the parts could not be brought together by about one inch, but subsequently, the inflammatory products being absorbed, this could be done, and I think that motion of the wrist is pretty good. I hoped to have present an elbow that I excised about a year ago. The boy suffered from tubercular ostitis; I removed 1½ inches of the ulna, one inch of the radius and one inch of the humerus. There was nothing but a shell of bone. The boy now has some flexion and extension, and it is a useful arm. In regard to the wrist I removed all of the tissues that I thought there was any danger from.

DR. FRY: I believe that trouble originated from traumatism, and yet it is difficult to explain the traumatism. While in bed, the patient's room-mate rolled on his arm, and he awoke with the pain. The next day he worked hard with the hammer; and by night his wrist was practically helpless. Its following so nearly upon this traumatism, and there having been nothing the matter with it before, leads me to believe that the traumatism was the cause of the trouble. Prior to the operation the patient was in a very run down condition, but within a few weeks he began to gain and is now better than for several years.

DR. LUTZ: I don't know of any joint more liable to sprain, next to the ankle, than the wrist. Anything that will produce laceration of the connective tissue in the neighborhood of the joint will produce a sprain. Sometimes the most trivial causes brings about inflammation about a joint, and I dare say that the doctor is correct, but he doesn't lay enough

stress on that peculiar general condition which fed and kept up the results of the traumatism. A man run down in health sustains an injury, and there is an inflammation of the parts involved; another man sustains an injury of the same magnitude, and he being in good health, nothing results, which suggests the advisability of immobilizing the joint and the futility of rubbing on things. I have made it a rule that when I can put the part at rest, I do it. I don't see how any general condition could be made the cause of the inflammation about the wrist in this case. I am in favor of the local theory. They start from the local trouble and are fed by the general condition. The hammering augmented it probably.

Dr. J. K. Bauduy, Jr., reported

THREE CASES OF DIPHTHERIA, ILLUSTRATING THE USE OF PAPAYOTIN.

I found the first case, a daughter, with temperature of 103°, a rapid pulse and the patient greatly depressed. I found on the left tonsil, extending back to the pharynx, an appearance which I said was suspicious; in the morning it was a marked case of diphtheria, the membrane extending onto the velum palati and uvula. I ordered papayotin to be applied. As I am talking to a congress of medical men I will not dilate on the constitutional treatment; I think it ought to keep pace with the local treatment, however. The next day two other children of the same family were affected, but as there was no more papayotin in the city, I had to treat them differently, and applied iron and glycerine. In the first case I used a 5 per cent. solution of papayotin, but now I take the powder and make a concentrated solution and apply every half hour, and in about twenty-four hours the membrane is about stripped off. The fever at once dropped in the case spoken of, and remained that way, and I didn't use papayotin for twenty-four hours. I telegraphed to New York and got some more of the drug and began on the other cases. Temperature, 105° in one, with great debility; membrane about the same. As soon as I made applications to these cases the fever dropped, and the constitutional symptoms were less marked. It is claimed for the drug that it is a germicide, and I account for its good effects from its germicidal properties, removing the influence of septicæmia by the absorption of that poisonous membrane. The cases are all convalescent except one who has paralysis of the velum palati, but is otherwise doing well. In the local treatment, papayotin is particularly useful, because it is not an escharotic to the normal membrane, merely eating the false membrane. It acts better when prepared fresh each time *pro re nata*. It acts as pepsin, and on that account has been recommended in indigestion and gastric derangements. I generally add a little lactic acid to it. It is valuable in preventing extension of this membrane, as extension kills the patient in a vast number of cases. I put a piece of membrane in a concentrated solution of papayotin, and in about two hours it was dissolved entirely. Whether it was a complete solution of the membrane, I don't know, as it was not given to a microscopist.

Stated Meeting, October 15, 1887.

The President in the Chair.

Dr. Edward Borck reported a case of

EXCISION OF THE ULNA.

July 24, 1887, I first saw a man who had got caught in some machinery, which tore off all the muscles of the extensor side, laying bare the radius. The pronator brevis was also torn in two; I was at a loss what to do. The man would not listen to amputation. No large blood vessels or nerves being injured, I removed all the superfluous muscles and let it stay till morning. He had a powerful constitution, and we determined to try to save the arm. The third day the pulse and temperature rose some for a day or two, then it sank down after a dose of Epsom salts, and the pulse varied from 82 to 83 for four weeks. One morning about the end of August, he told me he had a chill during the night; then fever, and fearful suppuration set in; the elbow joint inflamed, and the case looked very bad. The periosteum being destroyed, nature pushed out the ulna, leaving it almost bare. I intended to save part of the bone, to saw it longitudinally, but the patient went from bad to worse, and I finally determined that the bone would have to be removed. The tendons were all cut, and I took the tendon of the extensor minimi digiti and fastened it to the tendon of the communis digitorum, holding them together with a fine needle. For a while he could move all the fingers except the little one; now he can move that too. I removed the whole ulna; nature had already thrust it nearly out. Already new bone had formed on the flexor side. From that on, the patient did well; the wound healed kindly, except the formation of a few abscesses. The power of repairing was so great that after opening one, the next day it would be healed. I removed the bone September 11. For the first time he walked about to-day. I will present him here for your inspection. I kept the arm at a right angle. In the beginning, of course, I gave him nothing but a dose of Epsom salts, and a dose of morphine when he could not sleep. When the fever and chills began, I put him on iodide of potassium, because it is the best antiseptic we have, I think—in large doses. After the removal of the bone we gave him quinine. Dressing consisted in the rinsing with Condy's fluid, and dressing with iodoform gauze. In the beginning, nothing but warm salt water and antiseptic gauze.

Dr. T. F. Prewitt presented a case of

SARCOMA OF THE EAR.

The case was that of a negro boy, aged 18 years. He noticed about a year ago a little warty growth on the antitragus, and after about three weeks it was taken out. He subsequently noticed that it had commenced to grow again in a month; it grew rapidly behind the ear. He first came to the clinic June 13, and then had a projection on the front of the cartilage of the ear, about as large as the front end of a thumb, while the whole base of the ear was lifted up. I diagnosed sarcoma, and as there was nothing else to do, I removed the whole ear. It did

well, was healing kindly for a while, but later it commenced to grow behind the ear rapidly. I concluded to attempt its removal a second time, and again commenced pretty well up and denuded bone, along the border of the superior maxilla, tied the external carotid artery—cutting the seventh pair of nerves in the first instance. I removed the parotid gland, laying bare the internal carotid and vein. That was three weeks ago. Now it is granulating and there is no evidence of its reproduction so far.

DR. PREWITT then presented a case of

RESECTION OF A RIB FOR EMPYEMA.

A boy 15 years old. He had an attack of pneumonia beginning March 23. July 17, he first came to me, and I found an extensive effusion in the left chest, the heart pushed to the right, and respiration exceedingly difficult; he had fever and was looking badly. I told the mother and himself that it would be necessary to open the chest; he was frightened and ran away, but he came back, and he permitted me to make an aspiration, when I drew off a pint of pus, and stopped then on account of dyspnœa. The next day I aspirated and drew off three pints of pus; July 26, 1½ pints; again July 22 and 24, and a week afterwards I aspirated. By that time it was evident that aspiration would do no good. I had expected as much at first. August 4, I opened the chest and resected the 5th rib, withdrawing an immense amount of pus, nearly two gallons. I introduced a drainage tube, making also an opening lower down through which to run the tube. Before opening the chest, there had begun to be a projection at the upper part anteriorly, about the third interspace, and looked as if it would ulcerate through in a short while. The cavity was washed out and the boy improved. The tube came out a few days ago.

DR. PREWITT also presented a case of

RESECTION OF ZYGOMA, OF UPPER JAW, REMOVAL OF PAROTID GLAND, AND LIGATION OF THE EXTERNAL CAROTID ARTERY FOR EPITHELIOMA OF THE FACE.

One year ago an old man came to me, with an epitheliomatous ulcer on the side of the face, which I removed. It healed kindly but he came back with the growth behind the ear as large as a hen's egg, firm, interfering with the movements of the jaw, and he was anxious to have something done. I didn't give him an encouraging prognosis, but there was nothing else to do, and I attempted to remove it. I cut down on it, found it necessary to resect part of the zygoma, and of the upper jaw, on account of the adhesions, and for the same reason removed the cartilage of the ear in front. I had to remove also the parotid gland, tied the external carotid, and subsequently the internal maxillary on account of the recurrent flow. The only things left in that region were the large blood-vessels. The old man bore the operation, and went home this morning.

DR. ROBERT BARCLAY: Malignant disease of the ear is very rare; I have seen but three cases, one of sarcoma and two of carcinoma. Another case, a tubercular syphilide, might have been taken for a carcinoma. The sarcoma of the right concha was one inch long, 5/8 inch thick. It began as a small blue spot extending directly outwards. It was thought at first that it was an angia-sarcoma; subsequent microscopic examination cleared the diagnosis. There was nothing the matter with the ear except this growth; the glands were not involved. It is the generally accepted opinion that sarcoma is very apt to be carried by the blood-vessels, while carcinoma and syphilis are borne by the lymphatics. If the poison in this case had been carried, we would hardly have thought that the glands would be involved, accepting this theory. However, any inflammation about these is apt to cause enlargement of the glands. This case I spoke of was operated upon by first removing with curved scissors, curetting and then the Paquelin cautery at a red heat. It healed over, and several years afterwards there was no return of the growth. After the removal of the auricle, it is a difficult matter to keep the canal from closing. I have one case of atresia of the canal. It was first a tubercular syphilide, then ulceration, and the thing closed with a very thick scar, except at one spot where it had been rather thin. I operated, and had the usual difficulty in keeping it open. I then introduced an elliptical cylinder, which has kept it open ever since. The wound is cicatrized, and I hope to keep the tube there long enough to make the dilatation permanent.

DR. F. J. LUTZ: Eight years ago I was subjected to severe criticism for resecting a rib, because it was supposed to be necessary. I resected a portion of the ribs for pyo-thorax, and I was, five years afterwards, fortunate enough to obtain a portion of the thorax *post-mortem*. What was then a comparatively new procedure, has since become established in surgery of the thorax in certain cases. Its object in empyema is not simply an evacuation of the pus; there is another object, the approximation of the costal and pulmonic pleuræ, the obliteration of an abscess cavity hastened by diminution in the size of the thorax. There is a marked difference in the two sides of the case; the left thorax is compressed. Whilst in children, in whom all reparative processes are carried on rapidly, it may not be the *sine qua non*, it may not be necessary, yet in adults, many cases that are treated simply by incision and drainage tube are subsequently converted into chronic inflammatory troubles of the pleura and lung. It has been suggested that a portion of several ribs be removed to facilitate the dropping in of the thorax. The simple introduction of the tube does not in many cases accomplish the proper drainage of the cavity, unless it be placed in the most dependent portion, assuming the patient to be in the erect position, and a portion of the pus remains. If laudable in the beginning, exposure will convert it into fœtid pus, and in spite of our efforts to wash it out the fever does not subside, septicæmia, and possibly pyemia, set up. I believe it to be better surgery and safer, to proceed as Dr. Prewitt did in his case.

DR. D. V. DEAN: One method of treatment not mentioned, that of introducing a tube and having its other end in a fluid, keeping it constantly drained, might be better than resection.

DR. E. H. GREGORY: I agree with Dr. Prewitt and Dr. Lutz. I endorse everything that they have said. There are comparatively few cases that require this graver procedure, but I certainly agree with Dr. Lutz that there are certain cases in which it is required. There is only one thing that I might take issue with Dr. Lutz on, and that is regarding laudable pus. I have been an advocate of that for many years, but there is a question in my mind whether there is any such thing.

DR. PREWITT: So far as resection of the rib is concerned, I cannot see that it adds a great deal to the gravity of the operation. It is easily done; you simply enlarge the opening into the chest, and the ribs are stretched apart, but as the contracting process goes on, these ribs approximate more closely than in health. How could you retain any sort of drainage-tube there without compression? Certainly, rubber will be compressed. As to the glass tube, it seems to me that you don't want a solid tube sticking out into the cavity of the chest until the cavity is closed up. If one could have a tube so arranged that the ends would turn up and lie against the wall it might do, but I didn't have such a tube. Contraction of the chest is favored by resection, as Dr. Lutz says, especially in the long-standing cases of pyothorax where the lung cannot expand, and the space would be too great for the pleuræ to come in apposition. So we must provide for the further contraction by the removal of the bony wall. I agree with Dr. Lutz that, in adults, aspiration is truly worthless. In regard to the antiseptic drainage which Dr. Dean mentions, we might do it in hospitals, but it is not easy to do it in clinical practice, and it is out of the question in a case like this; he would never have staid on his back.

DR. GLASGOW read a paper on

A NEW METHOD (CLOSED) OF TREATING ABSCESS CAVITIES.

DR. PREWITT: I have been in the habit of injecting abscess cavities for several years with an emulsion of iodoform in glycerin. I remember one case of a man who was shot in the chest. I took out the ball posterior to the scapula. Pus formed and suppuration ensued, and an opening was made in the axilla. I was anxious to enlarge the opening of entrance, but he would never allow me to do it; finally, I injected the cavity with an emulsion of iodoform in glycerin. He sprang up and seemed almost on the point of suffocation, and I really thought he was going to die, but reassured him. It had gotten into the bronchial tubes, but from that time the cavity scarcely secreted any pus, and he rapidly recovered.

Recently we had a woman, some months after parturition, with an abscess on the left side, just above the crest of the ilium, with an opening on the outer side of the ilium on the other side. I was convinced that the openings connected, but was not able to demonstrate it; and I made an opening above the crest of the ilium and carried it over, made an opening below, evacuated pus and repeatedly injected glycerin emulsion, and in one of the washings water came out of the opening on the other side. I don't know how the communication was made, but it seemed to pass across the pelvis. Iodoform has certainly been of benefit to her, but not quite so promptly as Dr. Glasgow mentions. I have not had such good results; whether it is on account of the oil, I do not know. As to its use in suppurating buboes, it would not be so successful; there you have a disintegrating gland that keeps up the suppuration, and often there is a chancroidal poison also.

DR. W. JOHNSTON: Those who have injected laudable pus, and no fever or unfavorable symptoms have been produced, will say that there is such a thing as laudable pus. As regards injecting large abscesses, it is nothing more than applying nitrate of silver, etc., to an indolent sore, and the use of the oil would be to soothe the irritation.

DR. DEAN: Beta-naphthol, it is said, is poisonous; hydro-naphthol is not so, it is claimed. I have often used it.

DR. GLASGOW: One point that was not touched on was that of dressing the abscess and waiting until it was healed before reopening it, as in fresh wounds. By no other treatment can that be done, I believe.

DR. DEAN: I think we will have to admit that the wound must be made aseptic before closing it, and that the solution that might remain would meet anything that might still exist there, supposing it not entirely aseptic.

FOREIGN CORRESPONDENCE

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Antipyrin in Sea-sickness—Action of Cocaine on the Digestive Tract—Diet in Gout—Potatoes as Food—Sulphobenzoate of Soda in Wound Dressing.

Since the introduction of antipyrin into the therapeutics of this country by Professor Germain Sée, it has been freely applied to a variety of cases, particularly those in which pain was the predominating symptom. In this it has almost completely supplanted cocaine, at least as an internal remedy. For sea-sickness it is now said to be unrivaled. At a recent meeting of the Société de Biologie, Dr. Dupuy stated that he had tried antipyrin in 11 cases of sea-sickness, and with complete success. He administered it in doses of from 2 to 3 grams daily for two or three days before embarking, and this medication was to be continued during three days after departure. Several theories were then enunciated as to the etiology of sea-sickness, various remedies being vaunted according to the theories entertained by the different speakers. According to Dr. Dupuy's experience, sea-sickness is a great deal more frequent and more severe in dyspeptic subjects, particularly in those who had dilatation of the stomach. M. Dastre said he had subjected animals to certain movements imitating as closely as possible those of pitching and rolling which one experiences on board a vessel at sea, and he found that under the influence of these

movements the viscera, and particularly the abdominal viscera, underwent a considerable displacement, which strike against the diaphragm and cause the gastric uneasiness. The body, explains the author, struggles with these displacements by means of muscular contractions, and the respiratory rhythm accommodates itself to them. Professor Brown-Séquard remarked that it has long been known that sea-sickness results from the displacement of the abdominal viscera and from the pulling about of the nervous plexus, and on this theory was founded the recommendation that persons going on a sea voyage should wear an abdominal belt furnished with a pad, which is to be placed in such a position as to compress the stomach. M. Morel also believed that the displacement of the viscera, and in particular that of the brain, was the principal cause of sea-sickness, and that which proves the correctness of this theory is that everything that diminishes this displacement attenuates at the same time sea-sickness. It must also be remarked that sea-sickness always occurs when the vessel is going down, never when it is being lifted up. The best preventive is to lie on the back and, of course, to take antipyrin as now advised.

Another popular remedy in general therapeutics is cocaine. This alkaloid, according to a note read before the last meeting of the Association Française for the Advancement of Science, Dr. Salet has found most useful in all affections of the stomach. From the author's researches and clinical observations he arrives at the following conclusions: 1. That cocaine exerts on the mucous membrane of the stomach and that of the digestive tube an action as certain as on the external mucous membranes. 2. That for this action to be as complete as possible, one must facilitate the impregnation of the gastric and intestinal mucous membranes, by promoting their secretions. Hence the advantage of associating cocaine with alkalies. 3. For this action to attain its maximum duration, one must add to this mixture very small doses of morphine.

Dr. Dujardin-Beaumetz, in a clinical lecture on the treatment of gout, recommends the following diet for gouty subjects: Meat of all kinds, giving the preference to white meat. To use moderately of eggs, fish, molluscs, crustacea and fatty substances. Vegetables should enter for a great part in the alimentation, with the exception of sorrel and spinach, which contain large proportions of oxalic acid. The moderate use of highly nutritious or nitrogenized vegetables or grains, such as cabbage and cauliflower, peas, beans, lentils and broad beans. To replace bread by potatoes. All fruits are favorable, and the grape cure might ameliorate the condition of certain gouty subjects. For drinking, water, and in particular water slightly alkaline, to be drunk with light Bordeaux wine, and white wines but little alcoholic. No champagne, nor gaseous waters, nor strong beer, particularly that which is strongly alcoholized. Coffee in weak infusion may be taken, but no tea, as the latter contains a large proportion of oxalic acid. The bowels should be kept free with mineral purgative waters. Urination should be performed every two hours. The body should be daily sponged with cold water followed by brisk rubbing, massage, exercises of all sorts.

While on the subject of diet I may here refer to an interesting article in the *Journal de la Santé*, by Dr. E. Monin, who, in speaking about potatoes, advises that they should not be used to excess, as they surcharge and dilate the stomach, they frequently cause obstructions in the bowels, particularly in the pale inhabitants of cities, whose digestive function is often so imperfect. Moreover, potatoes are not a perfect aliment. Their exclusive use ends by debilitating, by "inferiorizing" the individual and even the race, in proof of which we have only to compare the Irish with the Scotch and the English. To the question, should potatoes be allowed in the diet of diabetics? the answer is now more generally in the affirmative than it was not many years ago. In a memoir crowned by the Medical Society of Anvers the author, Dr. Monin, writes that it is true potatoes contain a farinaceous element capable of being transformed into sugar, but they also contain a certain quantity of the salts of potash, the absorption of which is very useful in diabetes. They should be preferably used boiled and without any sauces. In this form they have the great advantage of replacing ordinary bread and even the famous gluten bread, which always contains, as shown by analysis, from 25 to 40 per cent. of the amylaceous principle, which the most farinaceous potatoes do not contain. Owing equally to their potassic principle, potatoes should form part of the diet of the gouty, bilious, and gravelous subject. They play a great part, in naval hygiene, in the prevention of scurvy, which is well known to be caused, in great measure, by the poorness of the blood in salts of potash.

In a note recently read before the Academy of Sciences, by M. Heckel, the author made known the result of the experiments performed at the Saint-Mandrier Hospital, near Toulon, with the sulphobenzoate of soda for dressing wounds. Experiments were also performed in the general hospitals of Toulon and Montpellier, and the results obtained show the superiority of this agent as an antiseptic, which besides possesses the advantage of having none of the inconveniences which the other substances employed for the same purpose have. All these experiments were performed with 3 per cent. solutions, with the addition, for the dressing, of from 5 to 8 times their volume of water according to the cutaneous susceptibility of the subjects treated; so that, in reality, the solutions employed were from 4 to 5 grams of this mixture to 1 litre of water.

A. B.

DOMESTIC CORRESPONDENCE

AMERICAN PHYSICIANS AND "THE PRUSSIAN YOKE."

Dear Sir:—The editor of the *Medical Record* in the issue of the 19th instant, quoting the declarations of the editor of the *Journal de Médicine de Paris*, under date of September 25, that "through the influence of Professor A. Martin, Berlin was selected as

the place of meeting for the next Congress," and that "the American physicians have bent under the 'Prussian yoke,'" says: "We take this occasion to inform our much-ruffled Gallic contemporary that American physicians have neither seen nor even heard mentioned that 'Prussian yoke,' which has so successfully upset his usually calm temperament and generally benign disposition." As the American member of the Committee of the Ninth International Congress, which was appointed to select the place of meeting for the Tenth Congress, to be held in 1890, I may be permitted to supplement the following:

1. The United States were represented on that Committee, as was each nationality having membership in the Congress, by a single member.

2. The representative of France appointed on that Committee, Dr. Landoldt, did not attend its session.

3. Senator Semmola, of Italy, was elected Chairman of the Committee, and he took occasion in returning thanks to propose Berlin as the place of next meeting of the Congress.

4. I followed with a statement that as the first Congress had convened in France (Paris, 1867), the second in Italy (Florence, 1869), the third in Austria (Vienna, 1873), the fourth in Belgium (Brussels, 1875), the fifth in Switzerland (Geneva, 1877), the sixth in Holland (Amsterdam, 1879), the seventh in Great Britain (London, 1881), the eighth in Denmark (Copenhagen, 1884), and the ninth in the United States (Washington, 1887), there remained Germany and Russia as having an *a priori* claim to the selection, and that as preference had been given to Washington over Berlin at the Eighth Congress, at Copenhagen, when the place of meeting of the Ninth was determined, it seemed eminently proper that Berlin should now be chosen and that the American representative should second the nomination make by the representative from Italy, which I then did.

5. Professor Reyher, the representative of Russia upon the Committee, thereupon rose and admitted the justice of the preference given to Berlin, and in doing so said that he wished to put on record that by this acquiescence he established a claim to have the Eleventh Congress meet at St. Petersburg in 1893.

6. Professor A. Martin, the member of the Committee from Germany, upon this, rose to express the gratification himself and colleagues would experience if Berlin were made the place of meeting of the Tenth Congress.

7. The representative from Switzerland, Dr. Cordés, thereupon proposed that the Tenth Congress should be convened at Paris, advancing as a chief reason that the intended Centennial celebration at that city, in 1889, would make time and place especially appropriate for such an international reunion.

8. Several members of the Committee replied that as a triennial period had been practically established, the meeting of the Congress in 1890 could not be coincident with the celebration of 1889, and that consequently this argument for holding a second Congress in France, to the exclusion of Germany and Russia, where none had yet been held, had manifestly no foundation.

9. The voting was by inscription, and when the Secretary of the Committee, the representative from Roumania, (Dr. Assaki) read the list, it was found that every member had voted for Berlin, excepting the representative of Switzerland, whose vote was recorded for Paris.

10. The result was reported to the General Session of the Congress on the following day, by the Chairman of the Committee, and was unanimouly approved without objection or protest.

Consequently, in the face of this ratification by the twenty-three or more nationalities represented in the Congress, it is difficult to understand how the editor of the *Journal de Médicine de Paris*, can assert that "the next meeting will not be an International Congress, but merely a German reunion."

As to personal solicitation, I have further to state that Rome was the only city in whose interest I was strongly approached, but as the Italian representative himself proposed Berlin, for the two-fold reason that a Congress had already been held in Italy and that Berlin had been so strongly advocated at Copenhagen and set aside for Washington, I felt it my duty to acquiesce in his views, and in doing so I certainly do not feel that I have "bent under the Prussian yoke," nor do I believe that MM. LeFort, Recamier, Landolt, Apostoli or any other of the eminent members of the Congress from France, nor Dr. Cordés, of Geneva, who so earnestly advocated the selection of Paris, have ever countenanced any such declaration.

Very respectfully, your obd't servant,

ALBERT L. GIHON, Med. Director U. S. N.

Mare Island, California, November 24, 1887.

WHY NOT THE PHARMACISTS?

Dear Sir:—The late innovation of having a Section of Dentistry at the Ninth International Medical Congress working so well, and the great excellence of the pharmaceutical display, invite the question, Why not have a Section of Pharmacy in the American Medical Association?

It is simply raised for discussion, adding the following memoranda:

1. Pharmacy is a branch of medicine.

2. In many parts of our country the physician is his own pharmacist, and every man would be his own pharmacist if it could be done consistently with his work.

3. Therapeutical pharmacy is equally as honorable, important, and valuable as any other branch of medicine.

4. Pharmacy has of late instructed the medical profession by therapeutical and medical journals, monographs and publications, forming a literature that medical men must get acquainted with or be left behind; the literature of cocaine for example.

5. Such a Section should be composed of, managed, and under the control of such bodies as the American Pharmaceutical Association, and be an autonomic department regulated by itself, as the Dental Section is.

6. The objection arising from the existence of disreputable and incompetent pharmacists, applies with equal force to physicians, but has not prevented the organization of the American Medical Association.

7. Such a Section would confer a social equality and standing on the pharmacists that would be healthy.

8. It would throw them into professional contact with physicians pleasantly, and conferences could be had as to desirable points to be made, and the result would tend to prevent each from trenching on the other's domains.

9. In the battle with disease, physicians, surgeons, dentists, specialists, pharmacists, and veterinarians, ought to move harmoniously forward against the enemy that means *war;* and *war* means *kill* or *be killed.* Nothing is gained by derision and decrying opposition of one division against the other, which often result in defeat. On the contrary, there is everything to be found by the mutual confidence, respect, and trust which such a Section would inspire and foster.

10. The overture should come from the American Medical Association. E. CUTTER, M.D.

New York, November, 1887.

MISCELLANEOUS.

OHIO STATE SANITARY ASSOCIATION.—The fifth annual meeting of this organization will be held in Toledo, February 9 and 10, 1888. President, Prof. E. T. Nelson, of Delavan, O.; Secretary, R. Harvey Reed, M.D., Mansfield, O., from whom further information may be obtained.

RUSH MEDICAL COLLEGE.—In a recent number of THE JOURNAL we stated that Chas. T. Parkes, M.D., of this city, previously Professor of Anatomy, had been appointed to the Chair of Surgery in the Rush Medical College, recently made vacant by the death of Prof. Moses Gunn. We are authorized to state now, that the Chair of Anatomy, made vacant by the transfer of Prof. Parkes, has been filled by the appointment of Arthur D. Bevan, M.D., a member of the Faculty of the Medical Department of Wilamette University, Portland, Oregon, and a graduate of the Rush Medical College, class 1883.

GREAT INTERNATIONAL COMPETITION OF SCIENCES AND INDUSTRY, BRUSSELS, 1888.—Eleventh Competition. Medicine, Chirurgy, Hygiene, Balneology, Public Assistance. Most of the Committees having asked that there should be no special regulations for their competition, it has been decided to refer to the *General Regulations* of the Great International Competition.

The promoters of the Great International Competition have had a happy and fruitful idea. In order to excite the emulation among the competitors, they have decided that the products should be grouped, according to their destination, so as to allow the immediate and complete study of a branch of industry, by the comparison of the similar products among the different nations. Medicine is to our mind especially called to profit by this excellent innovation.

And indeed, the medical sciences, as well as the arts and industries connected with them, have of late realized immense progress. Such are those memorable and fruitful discoveries, made by the anatomo-pathological works, by physiological experiments, by microscopical researches, and by microbiological studies. Such are, besides, those remarkable ameliorations of chirurgy that allow the operator to work on all the organs of the body, even on those that by their position or their contexture, seemed condemned to remain eternally inaccessible to the hand of man.

Such are, besides, the experiments of the laboratories and those scientific observations that have been the point of departure of those numerous works of hygiene the efficacy of which has shown itself by an increase of human longevity, in spite of the unfavorable conditions of modern life. Such are also the therapeutic applications of the marvellous discoveries of physical sciences, thanks to which the doctor can utilize the greater part of natural agencies.

The Great International Competition of 1888 offers a unique opportunity to make known to the public, that ignores it too often, that medicine has not remained stationary in the middle of the unceasing march of all branches of human activity. We come to solicit your adhesion and coöperation in this generous enterprise, that will allow you to put in relief the part you have taken in these works.

We submit to you the programme of the desiderata that the organizing committee of Class No. 11 has decided to submit to the Competition, as well as the adopted classification for the medical compartment of the Exhibition.

STAS, *President of Committee 11.*

LENTZ, DR. MOELLER, } *Secretaries of Committee 11.*

General Classification.—Subdivision 11*a*. Medicine. Subdivision 11*b*. Chirurgy. Subdivision 11*c*. Public and private hygiene. Subdivision 11*d*. Balneology and therapeutic applications of physical agencies, aeropathy, electrotherapy, hydrotherapy, gymnastics, massage, climato-therapy. Subdivision 11*e*. Public assistance.

Officers of Committee No. 11.—President, Mr. Stas, Vice-President of the Superior Council of Hygiene, at Brussels; Vice-Presidents, Dr. Crocq, Senator, and titular member of the Royal Academy of Belgium, at Brussels, and M. Domis de Semerpont, General Secretary of the Ministry of Justice, at Brussels; Secretaries, M. Lentz, General Director in the Ministry of Justice, at Brussels, and Dr. Moeller, corresponding member of the Royal Medical Academy, at Brussels.

N. B.—The persons who wish to obtain a complete collection of the desiderata formulated by the fifty-six committees, can obtain them by applying to the Executive Committee, No. 22 Rue des Palais, Brussels.

Applications to be filed before January 15, 1888. Entries to be made before April 15, 1888.

ARMSTRONG, KNAUER & Co., *Authorized Agents,*
822 and 824 Broadway, New York.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM DECEMBER 3, 1887, TO DECEMBER 9, 1887.

Capt. Jno. Van R. Hoff, Asst. Surgeon, granted leave of absence for one month, to take effect on or about the 12th proximo. S. O. 128, Dept. Mo., November 30, 1887.

Capt. Benj. Munday, Asst. Surgeon, granted leave of absence for one month, to take effect about December 15, 1887. S. O. 280, A. G. O., December 2, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDING DECEMBER 12, 1887.

Surgeon J. M. Gassaway, when relieved, to proceed to Cairo, Ill., and assume charge of the Service. December 9, 1887.

Surgeon Fairfax Irwin, promoted and appointed Surgeon from date of oath, December 10, 1887. December 8, 1887. [1]To proceed to Pittsburgh, Pa.; Wheeling, W. Va.; Gallipolis, O.; Evansville, Ind.; Cairo, Ill.; Little Rock, Ark.; Shreveport, La.; New Orleans, La.; Rome, Ga.; Chattanooga and Nashville, Tenn., as inspector. November 12, 1887.

P. A. Surgeon John Guitéras, when relieved, to proceed to Charleston, S. C., and assume charge of the Service. December 12, 1887.

P. A. Surgeon C. E. Banks, to proceed to Portland, Me., and assume charge of the Service. December 9, 1887.

P. A. Surgeon D. A. Carmichael, when relieved, to proceed to Washington, D. C., for temporary duty in the office of the Supervising Surgeon-General. December 9, 1887.

P. A. Surgeon A. D. Bevan, granted leave of absence for twenty days. December 7, 1887.

P. A. Surgeon A. H. Glennan, to proceed to Key West, Fla., and asume charge of the Service. December 12, 1887.

[1] Omitted from previous report.